

PFM

Maxillary Anterior

Porcelain-Fused To Metal

Metal-Ceramic Restoration

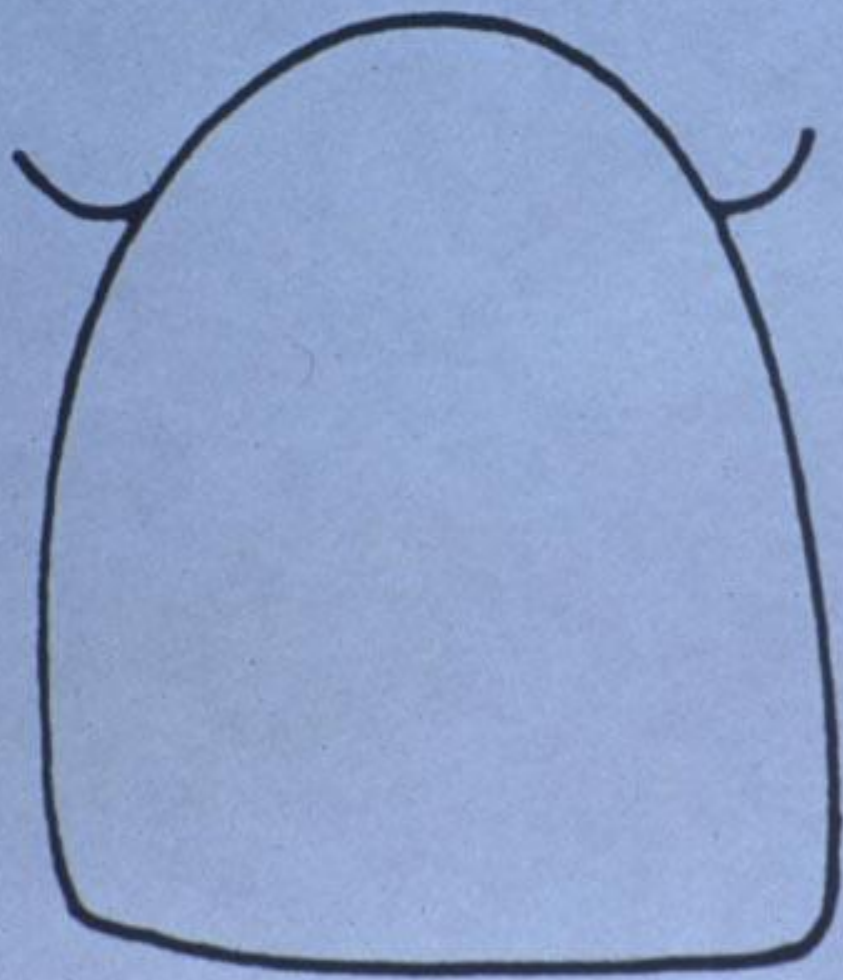


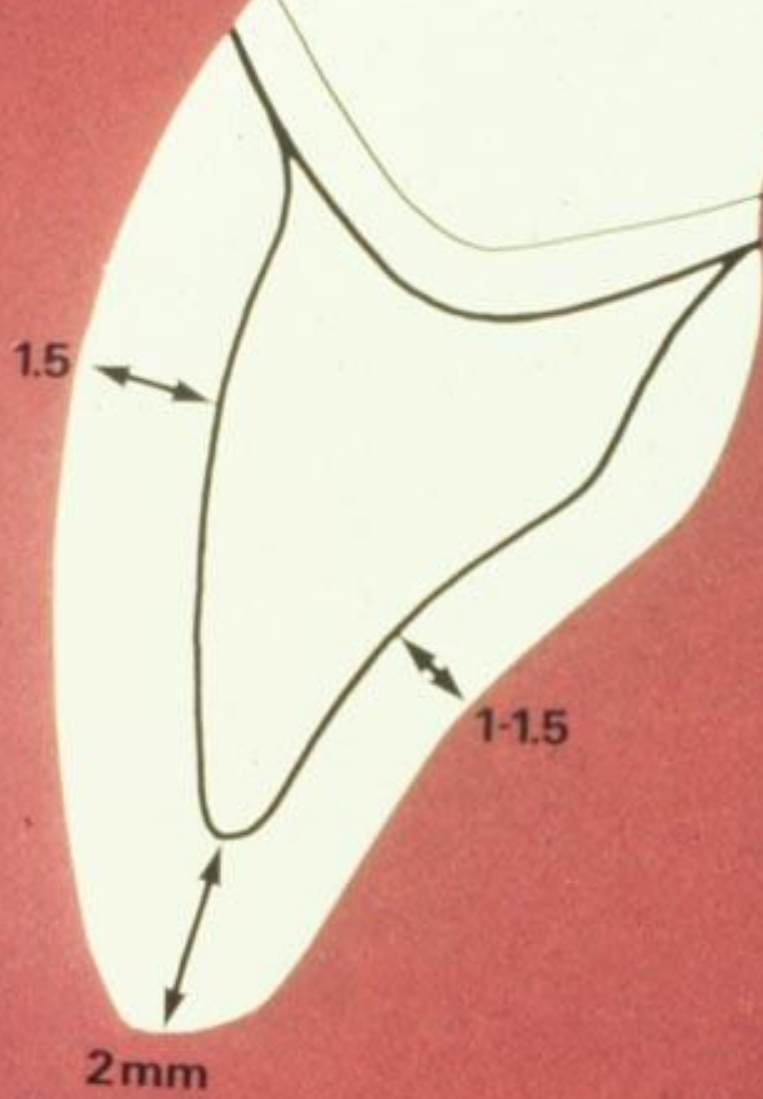


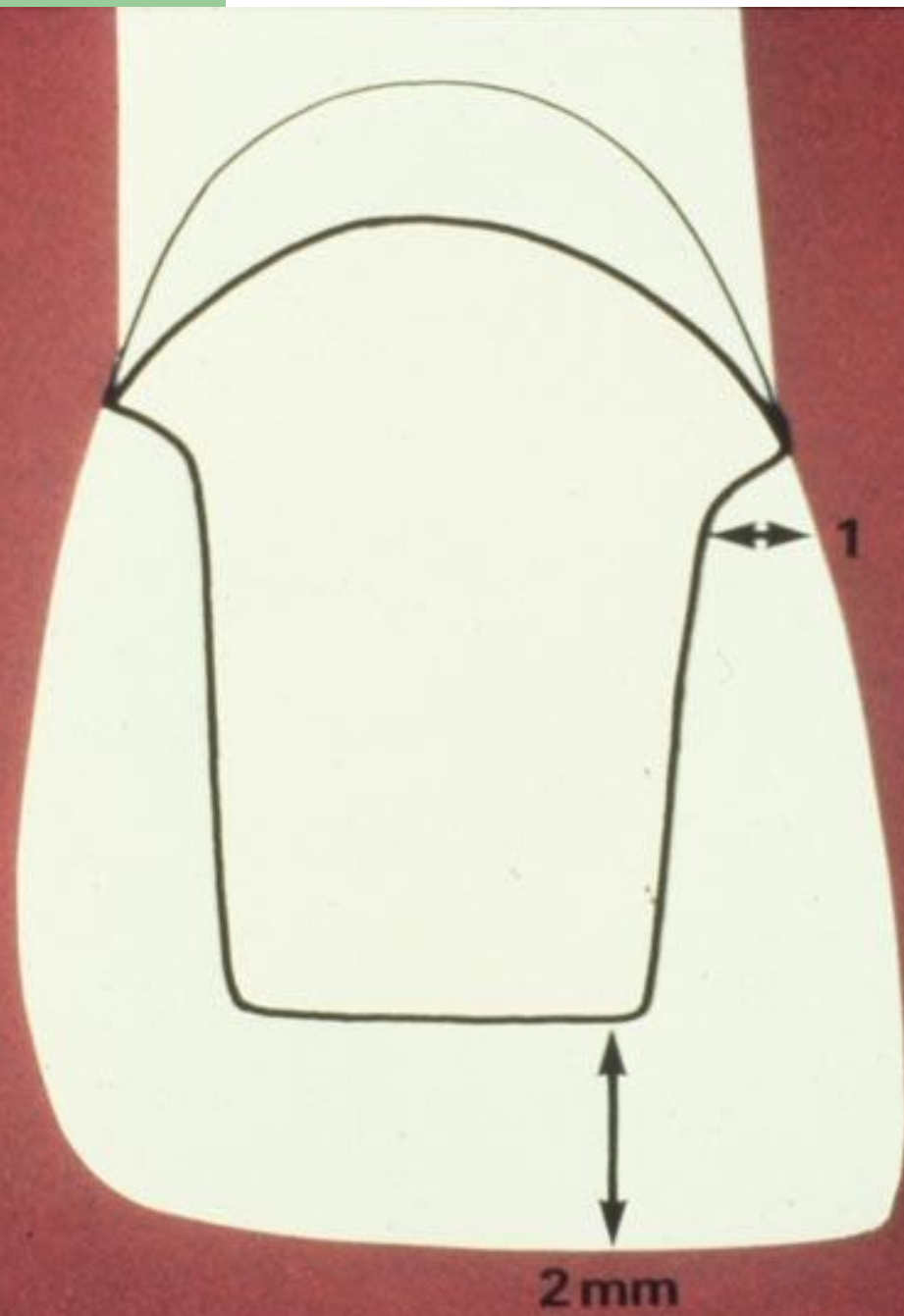




metal: 0.5 mm (0.3 mm)
opaque porcelain: 0.2 mm
body porcelain: 0.5 mm
1.2 mm

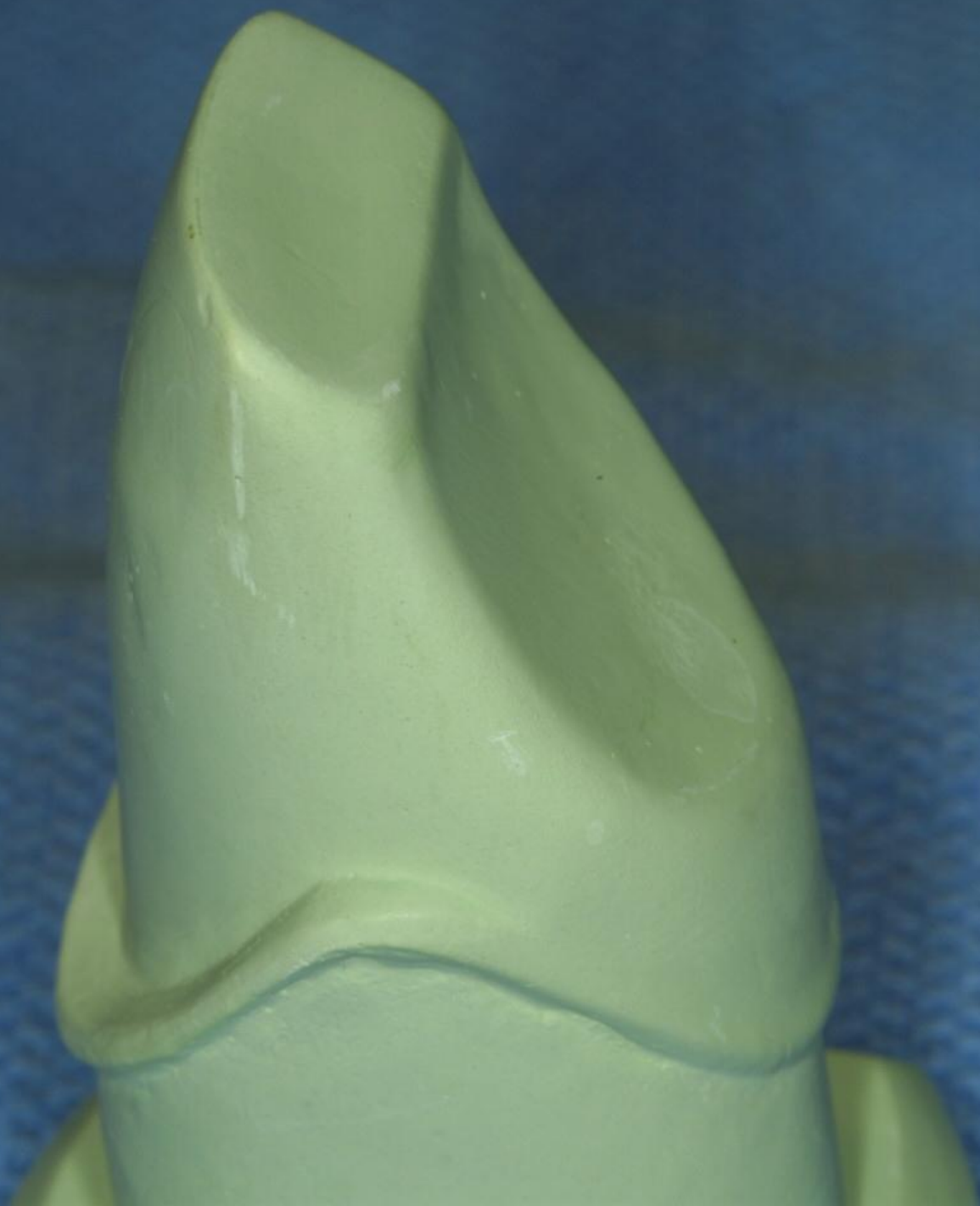


















Indication:

- Teeth that require complete coverage.
- where significant esthetic demands are indicated.
- Serve as a retainer for a fixed partial denture because its metal substructure can accommodate cast or soldered connectors.
- Extensive tooth destruction as a result of caries, trauma, or existing previous restorations.
- Endodontically treated tooth
- The need to recontour axial surfaces or correct minor malinclinations.

CONTRAINDICATIONS:

- In young patients with large pulp chambers
- A metal-ceramic restoration should not be considered whenever a more conservative retainer is feasible.

Advantages:

- combines, to a large degree, the strength of cast metal with the esthetics of an all-ceramic crown.
- Natural appearance can be closely matched by good technique
-
- Retentive qualities are excellent because all axial walls are included.
- The complete-coverage aspect of the restoration permits easy correction of axial form.

Disadvantage:

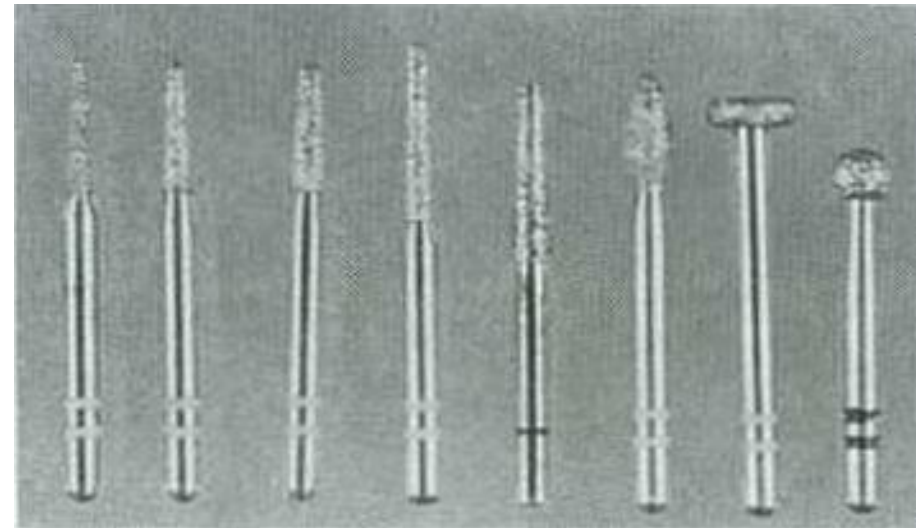
- The preparation requires significant tooth reduction.
- The facial margin of an anterior restoration
- is often placed subgingivally, which increases the potential for periodontal disease.
- Compared to an all-ceramic restoration, the
- metal-ceramic crown may have slightly inferior esthetics.

Preparation Steps

- Guiding grooves.
- Incisal reduction (2mm)
- Lingual clearance (1-1.5 mm)
- Facial reduction (1.5mm)
- Proximal reduction
- Lingual reduction
 - Cingulum
 - Fossa
- Finish-shoulder and walls

Armamentarium:

- Round-tipped rotary diamonds
- Football- or wheel-shaped diamond (for lingual reduction of anterior teeth)
- Flat-ended, tapered diamond (for shoulder preparation)
- Finishing stones
- Explorer and periodontal probe
- Hatchet and chisel









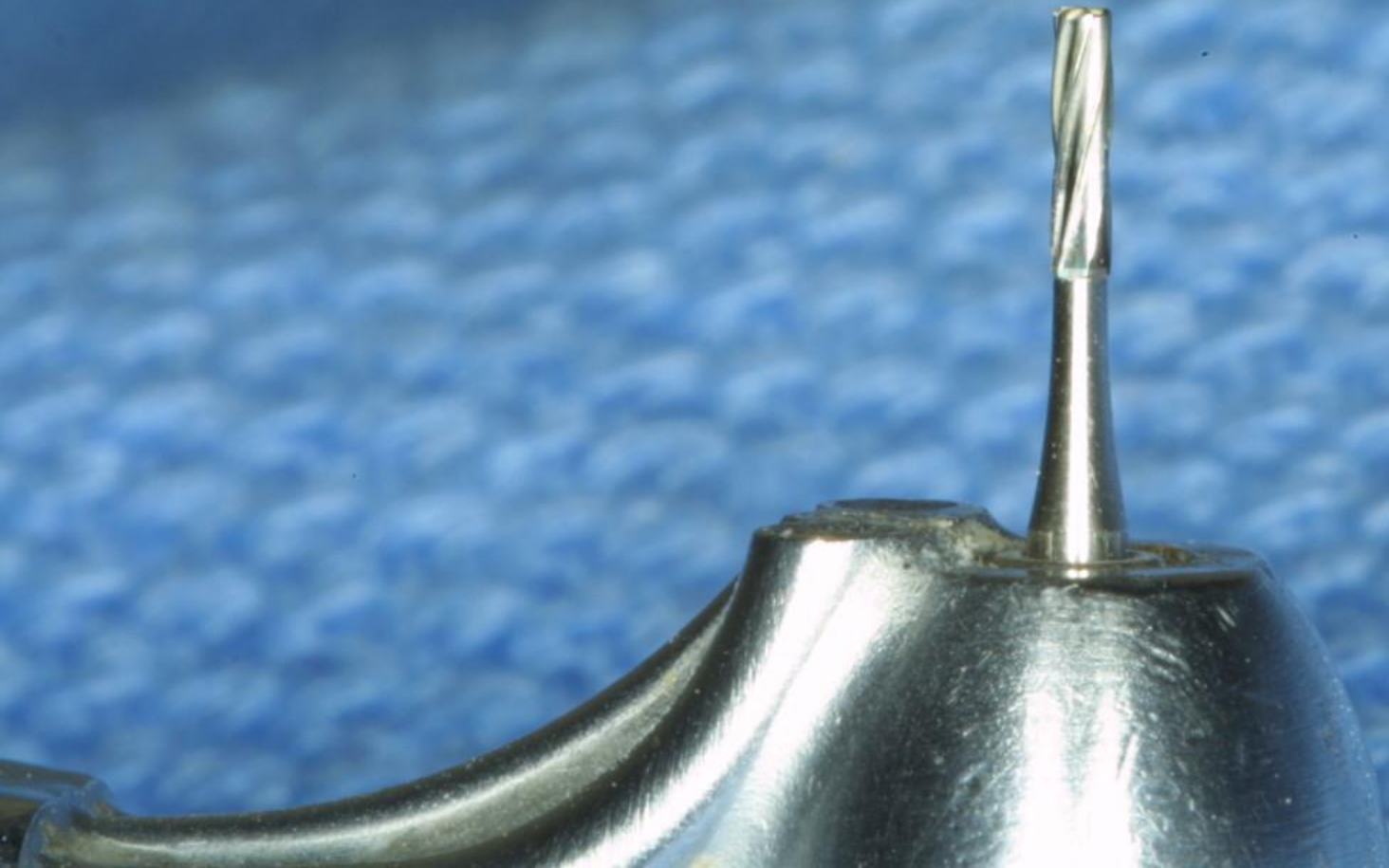
Incisal Guiding Grooves:

- It should be approximately 1.3 mm deep to allow for additional reduction during finishing. The incisal grooves usually extend halfway down the facial surface,
- although (depending on the shape of the
- tooth) they may extend to include the incisal
- two thirds.
- Cervical grooves are generally
- made parallel to the long axis of the tooth.

Incisal Reduction

- The completed reduction of the incisal edge on an anterior tooth should allow 2 mm for adequate material thickness
- to permit translucency in the completed restoration.
- Using tapered round end diamond stone.

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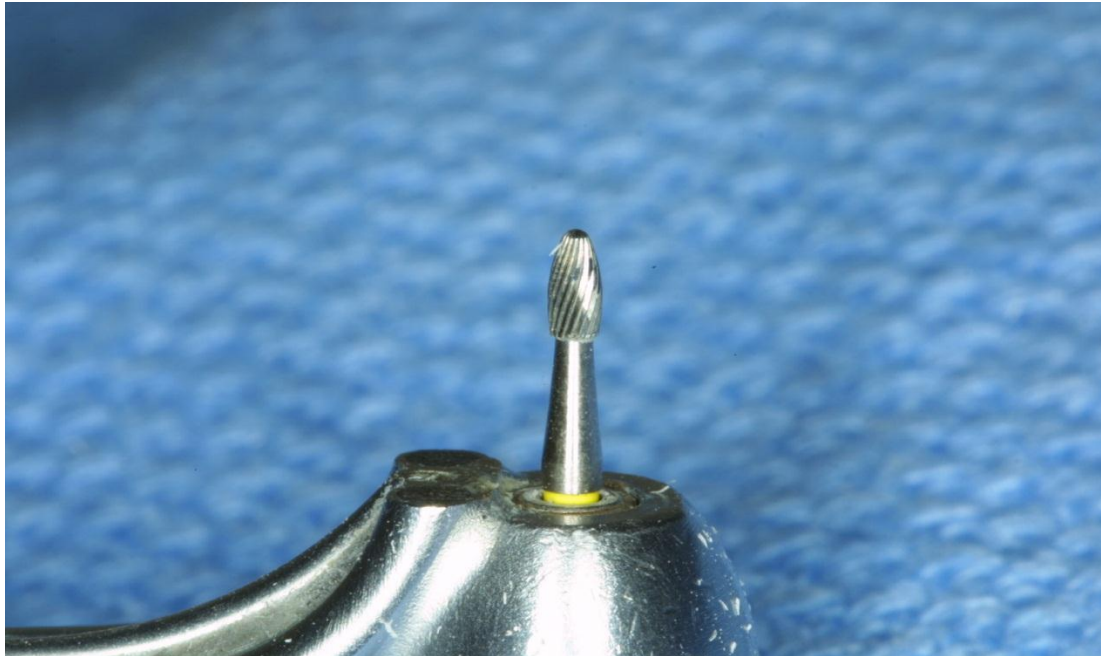






Lingual Clearance

- The lingual concavity is reduced using a small wheel stone to allow for 0.7-1.0 mm clearance.



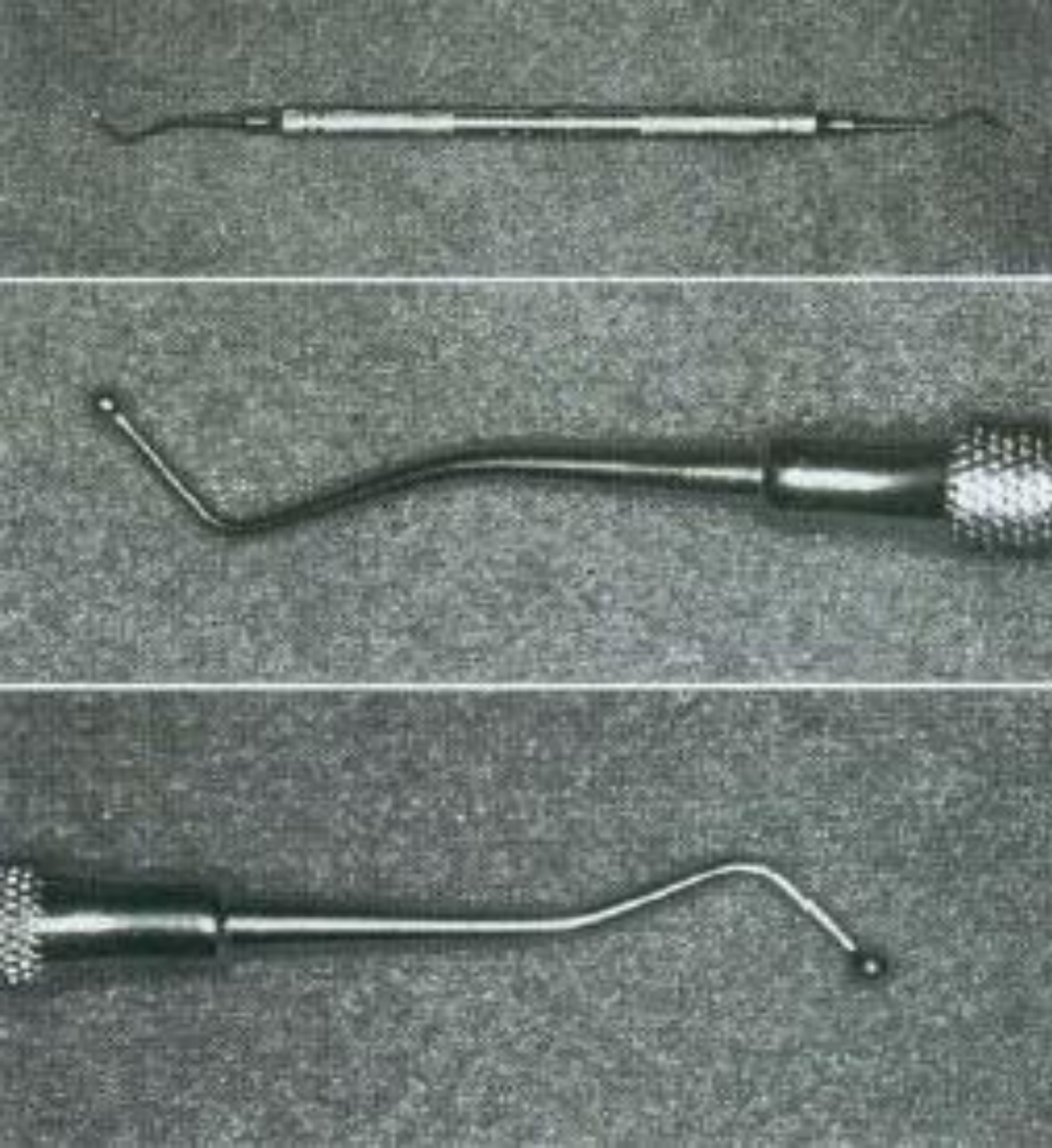


RGS 3









Occlusal or incisal clearance can be judged intraorally with a reduction gauge. This instrument has 1-mm- and 1.5-mm-diameter spherical tips.



Measure clearance with RGS 3
Instrument fits loosely

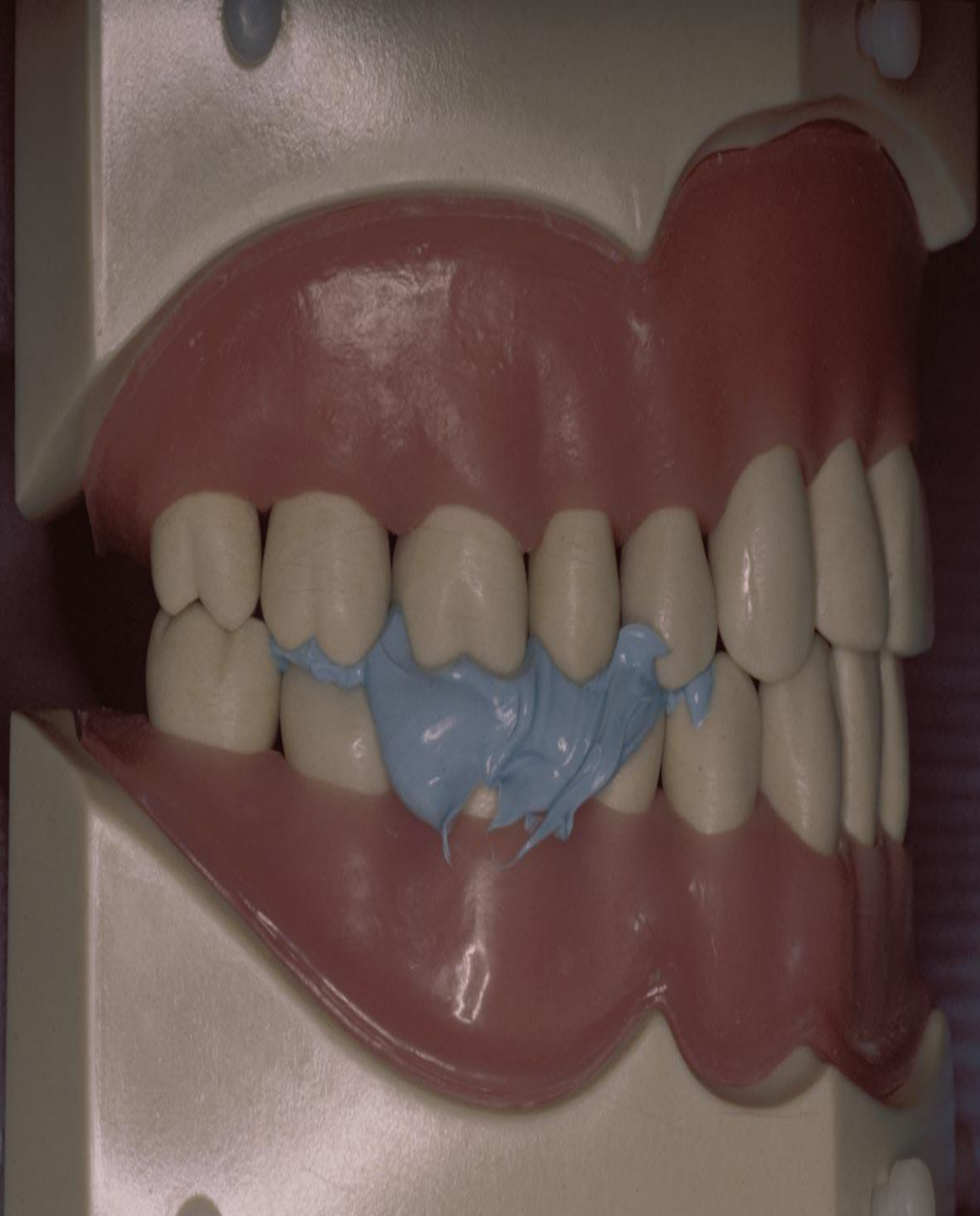
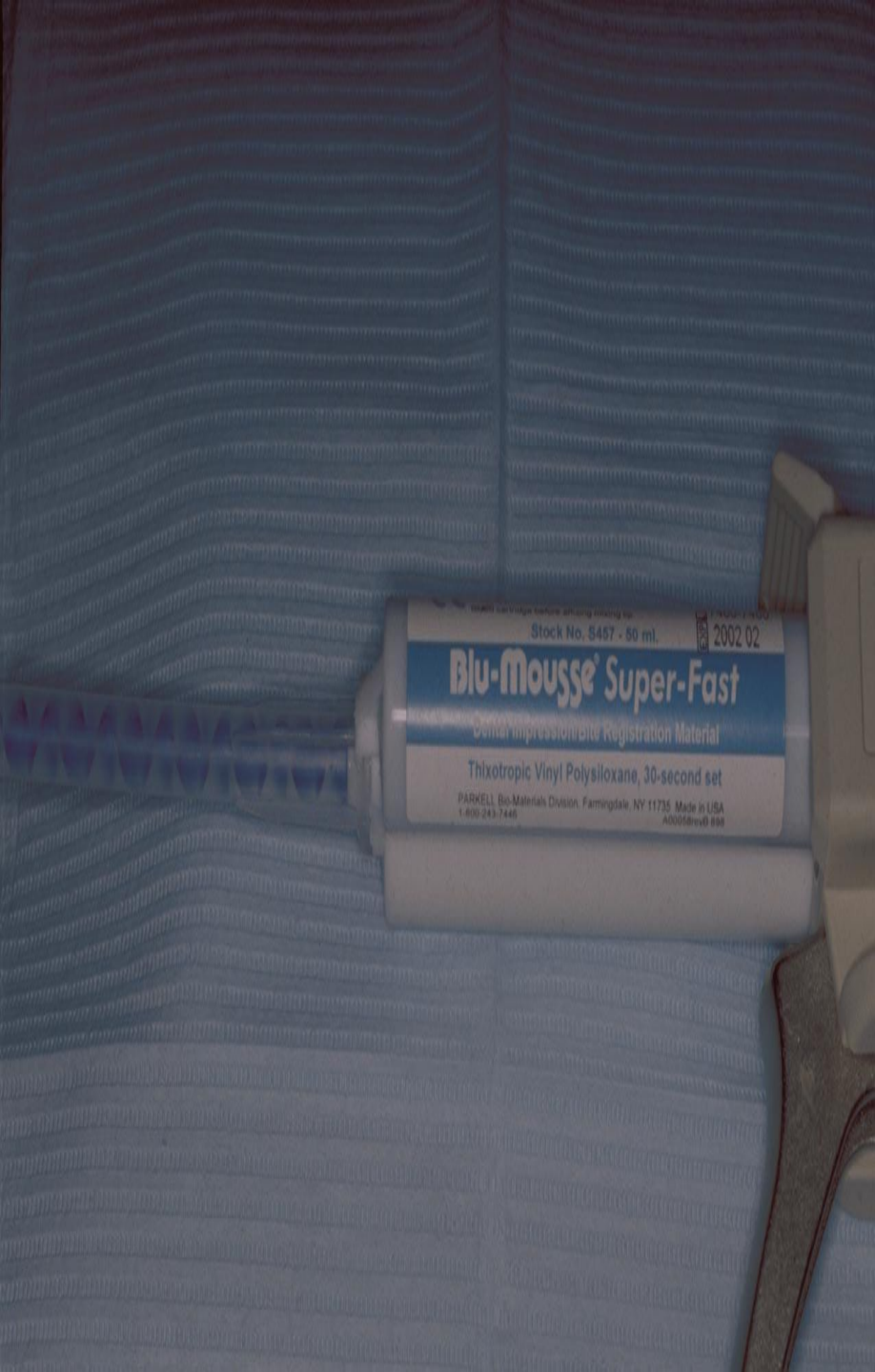


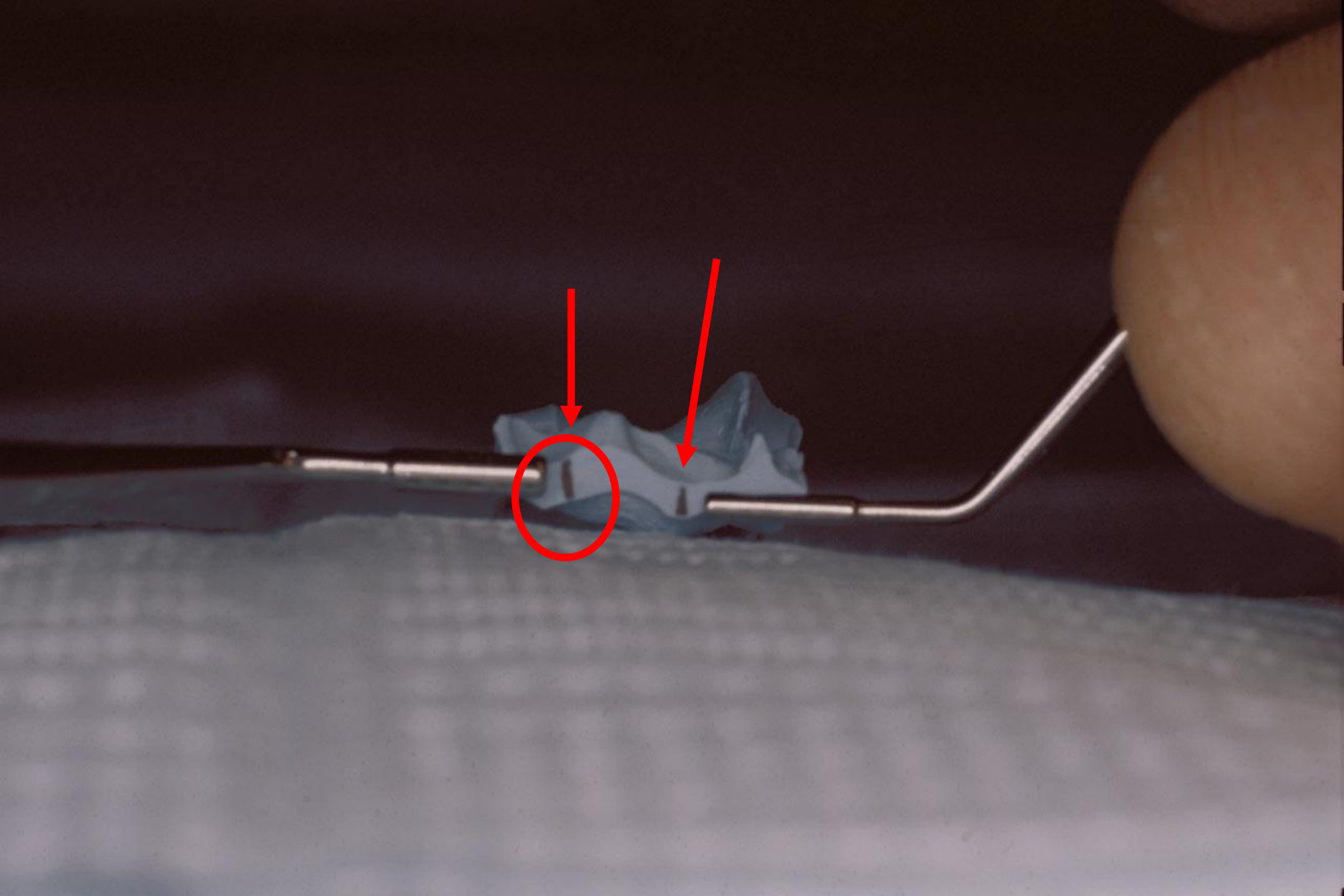
Evaluation of the adequacy of occlusal clearance.

A, The patient closes into softened wax.



B, The thickness of the wax is assessed visually and measured with a wax caliper after it has been removed from the mouth.

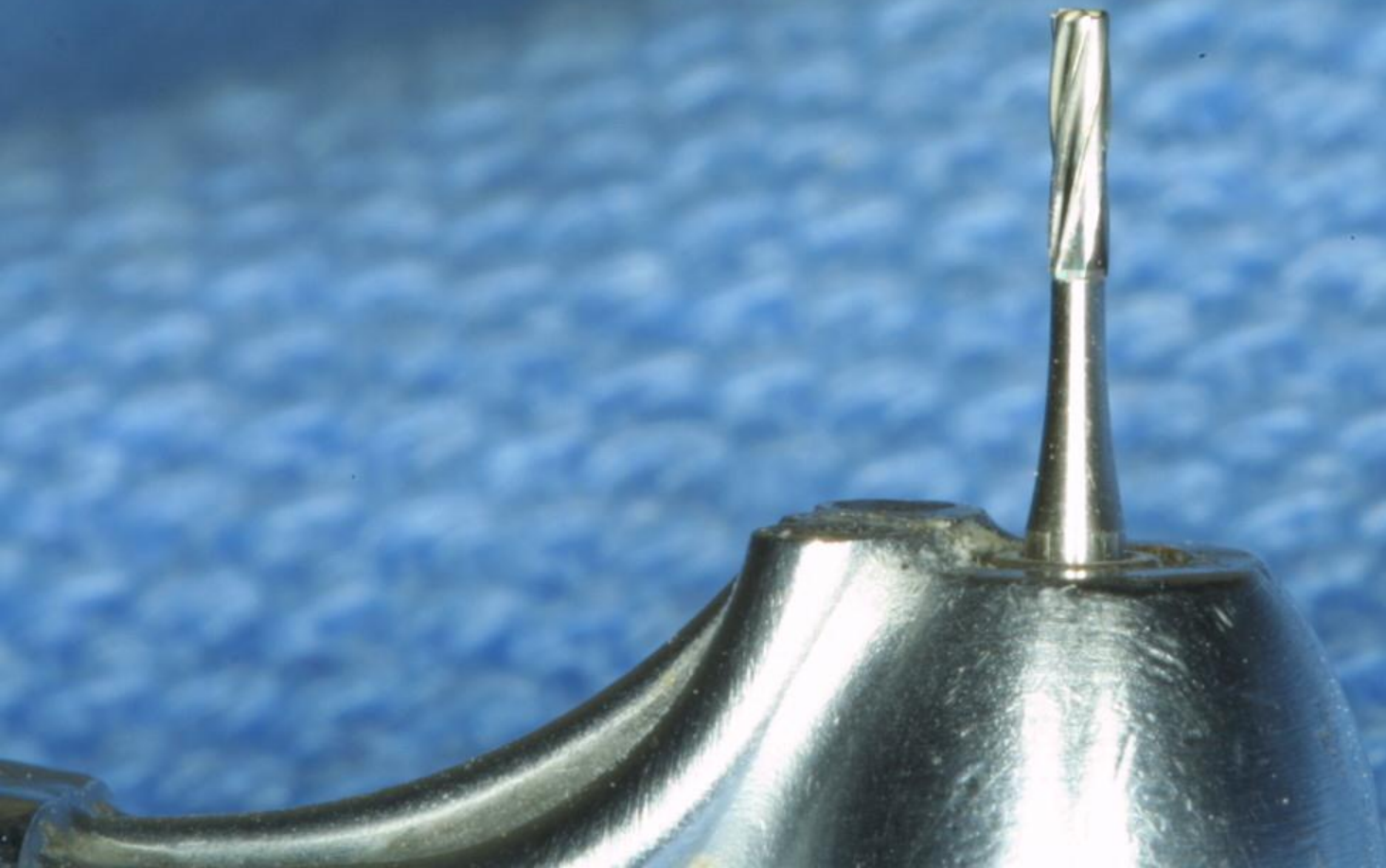




Facial Reduction

- Using flat end diamond stone, grooves are cut in two planes.
- Its depth should be 1.2 mm deep.
- Facial reduction is 1.5mm with a shoulder FL
- Reduction should extended 1mm lingual to the proximal contacts for better esthetics.

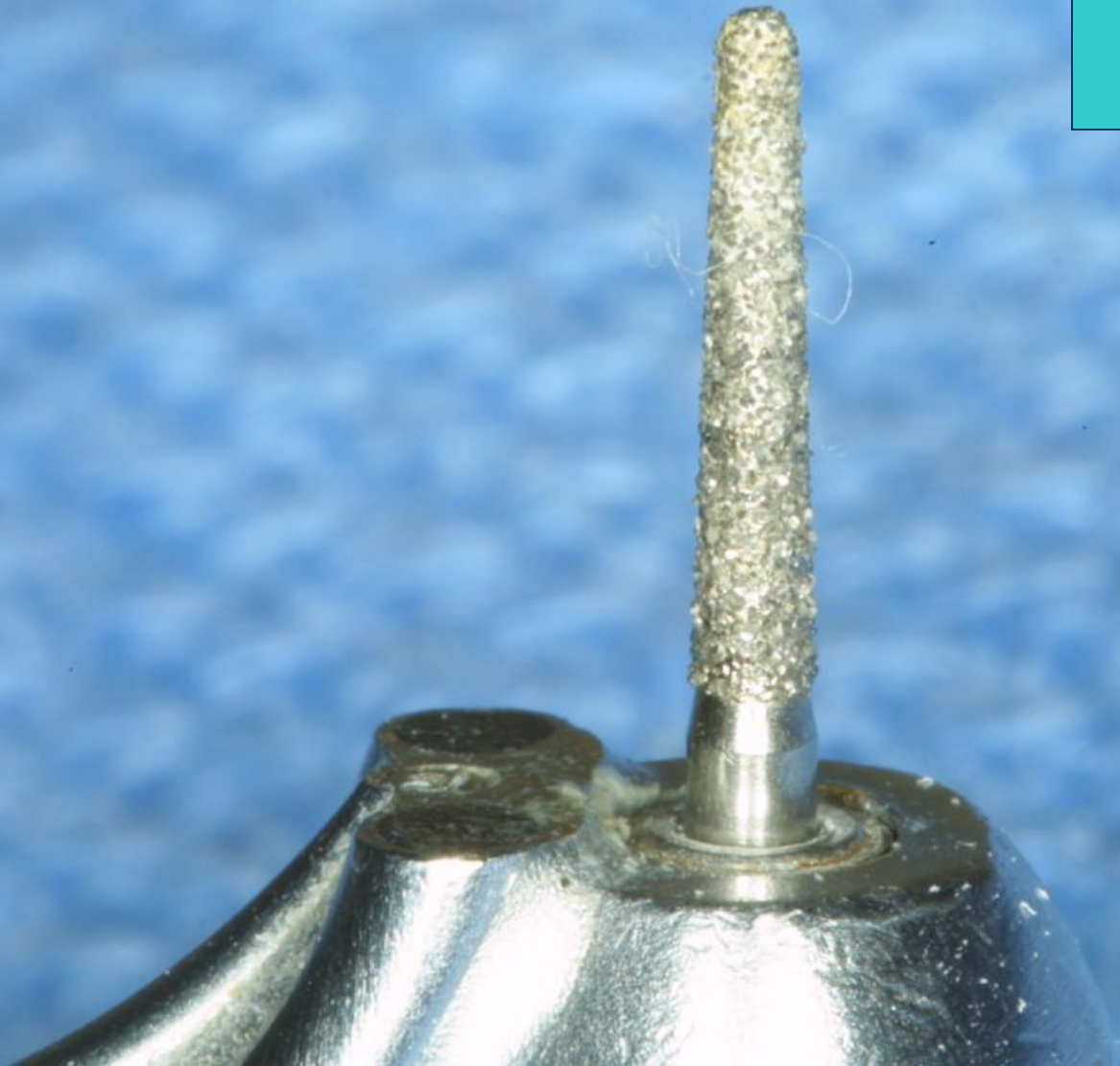
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856-016

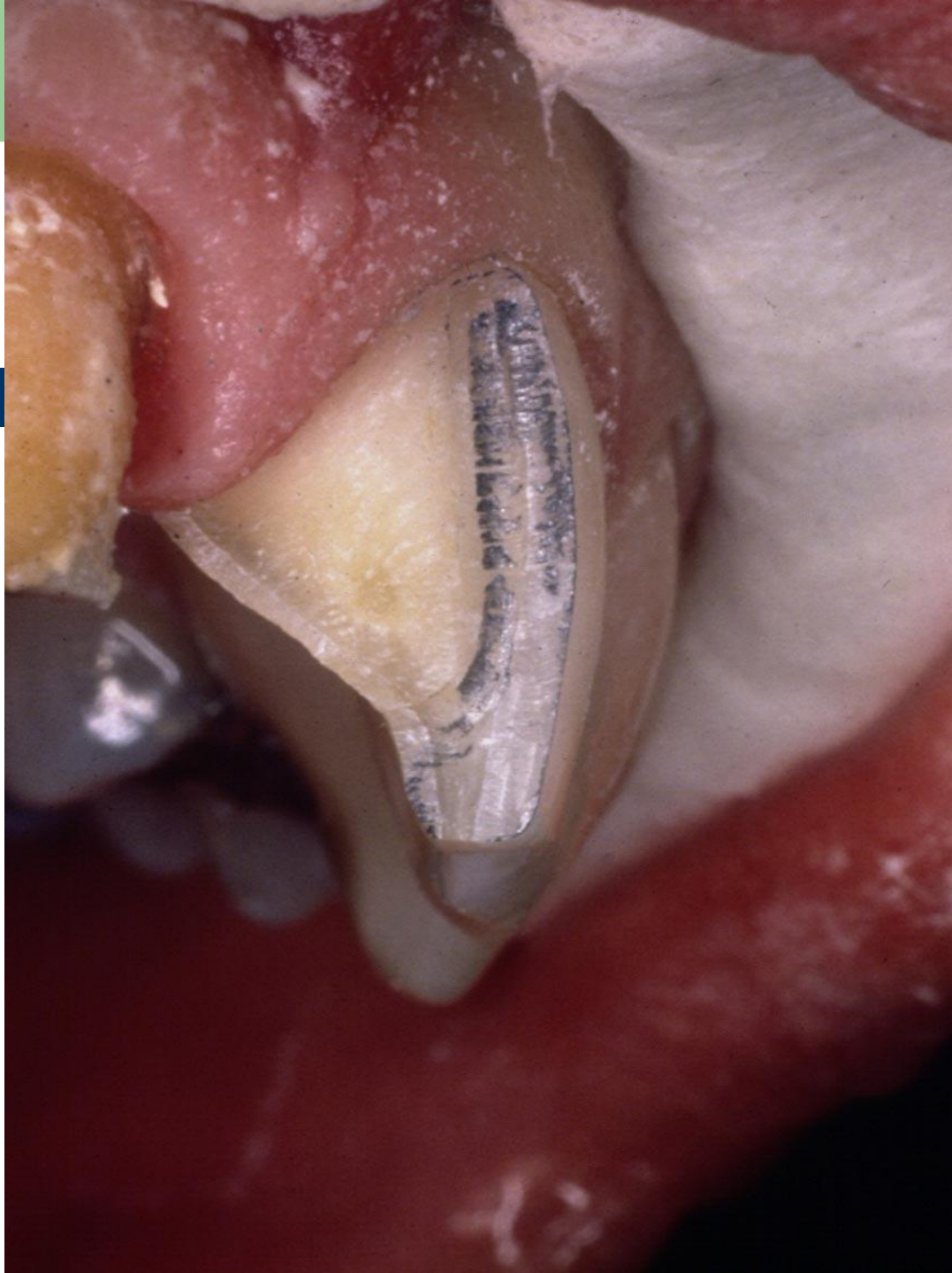


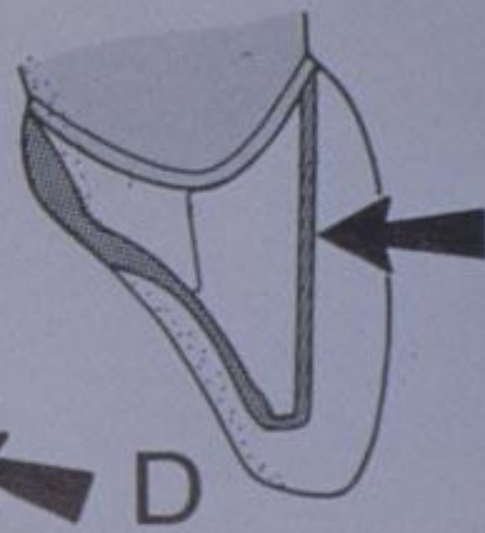
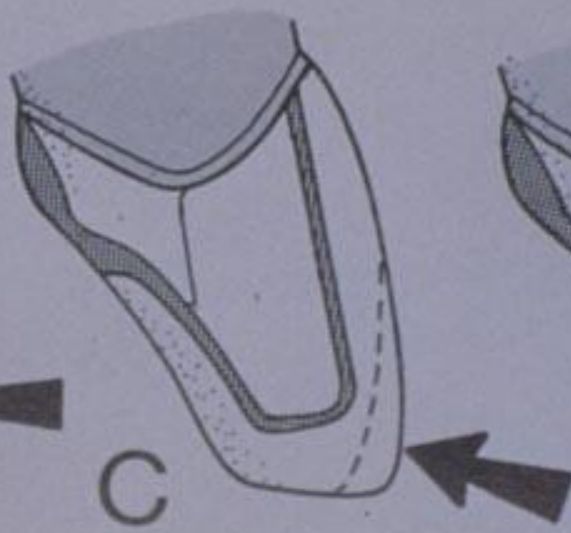
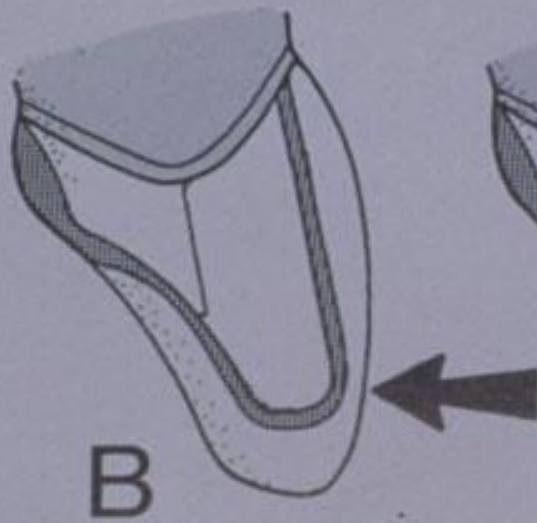


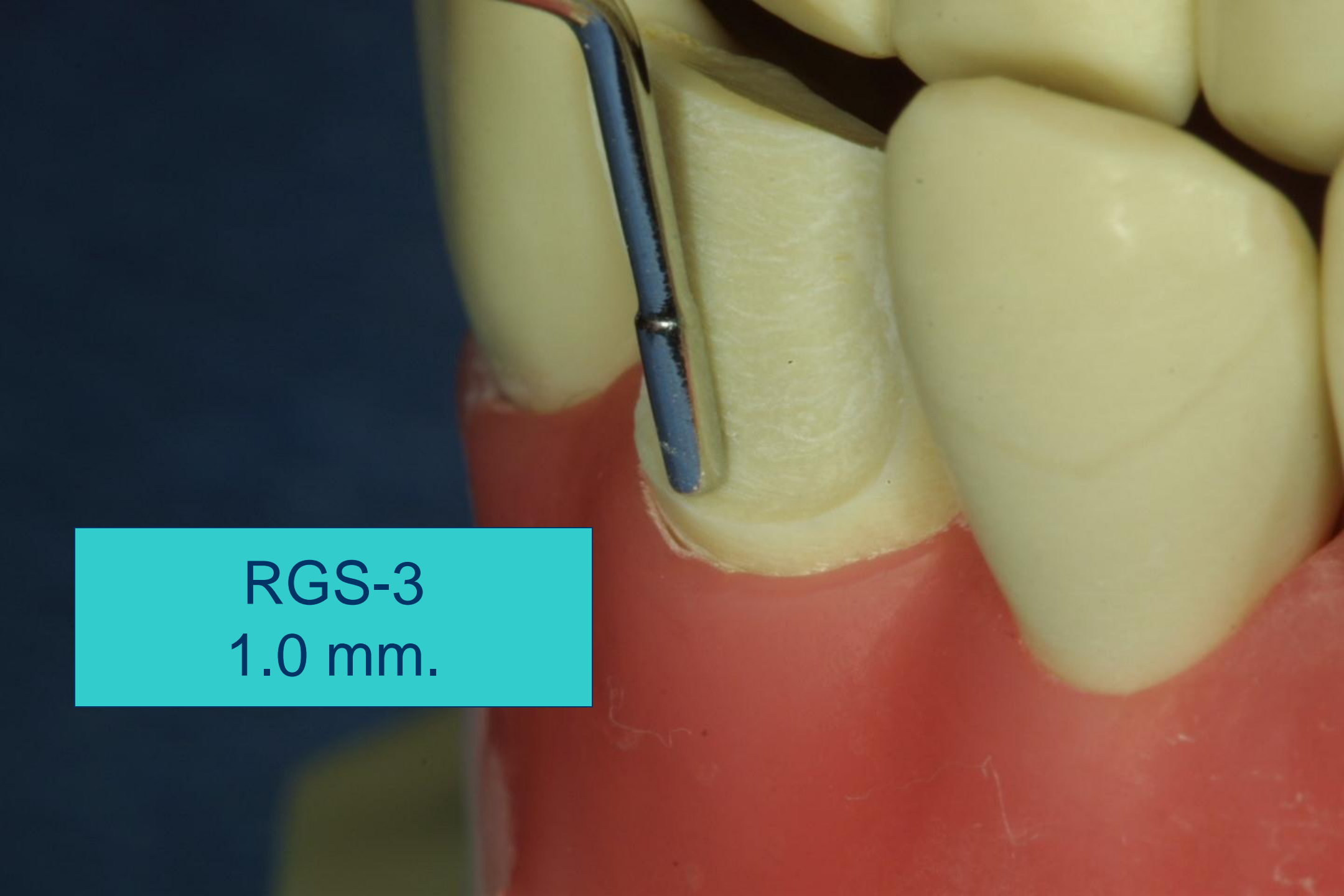










A close-up photograph of a dental procedure on a tooth model. A blue-handled dental instrument is positioned against the side of a tooth, which is partially covered by a red wax or resin material. The instrument appears to be a scaler or a similar tool used for dental work. The background is dark blue.

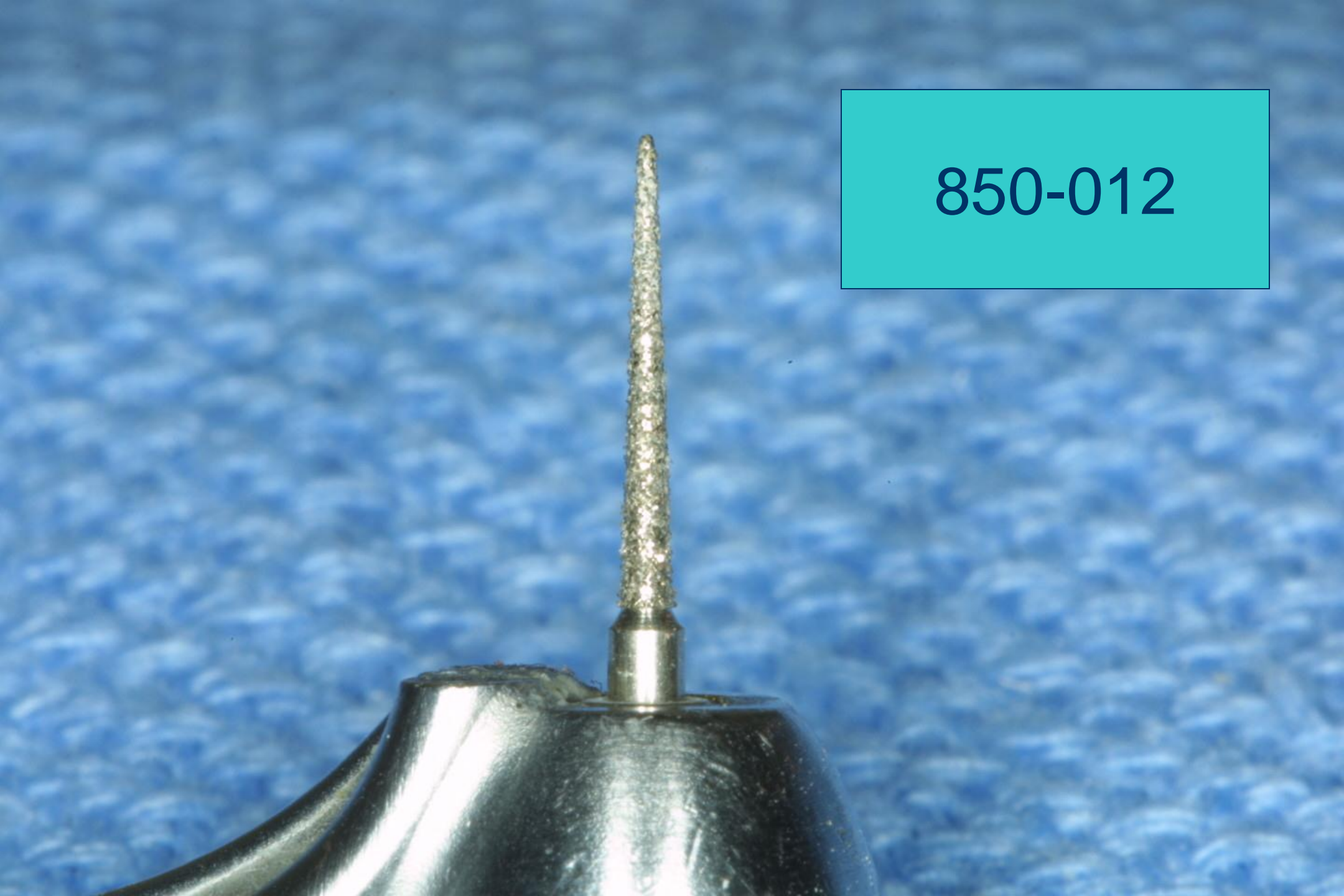
RGS-3
1.0 mm.

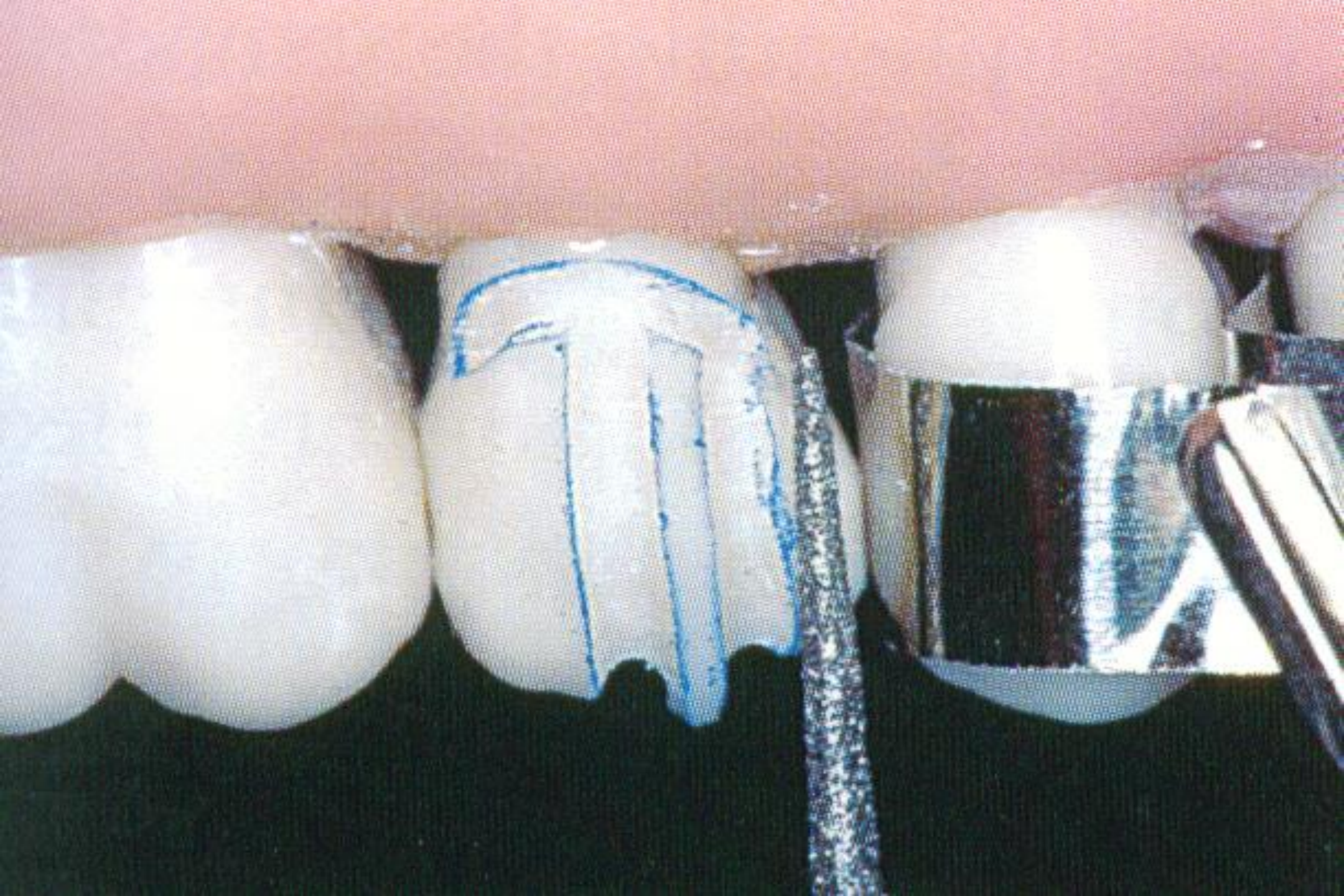


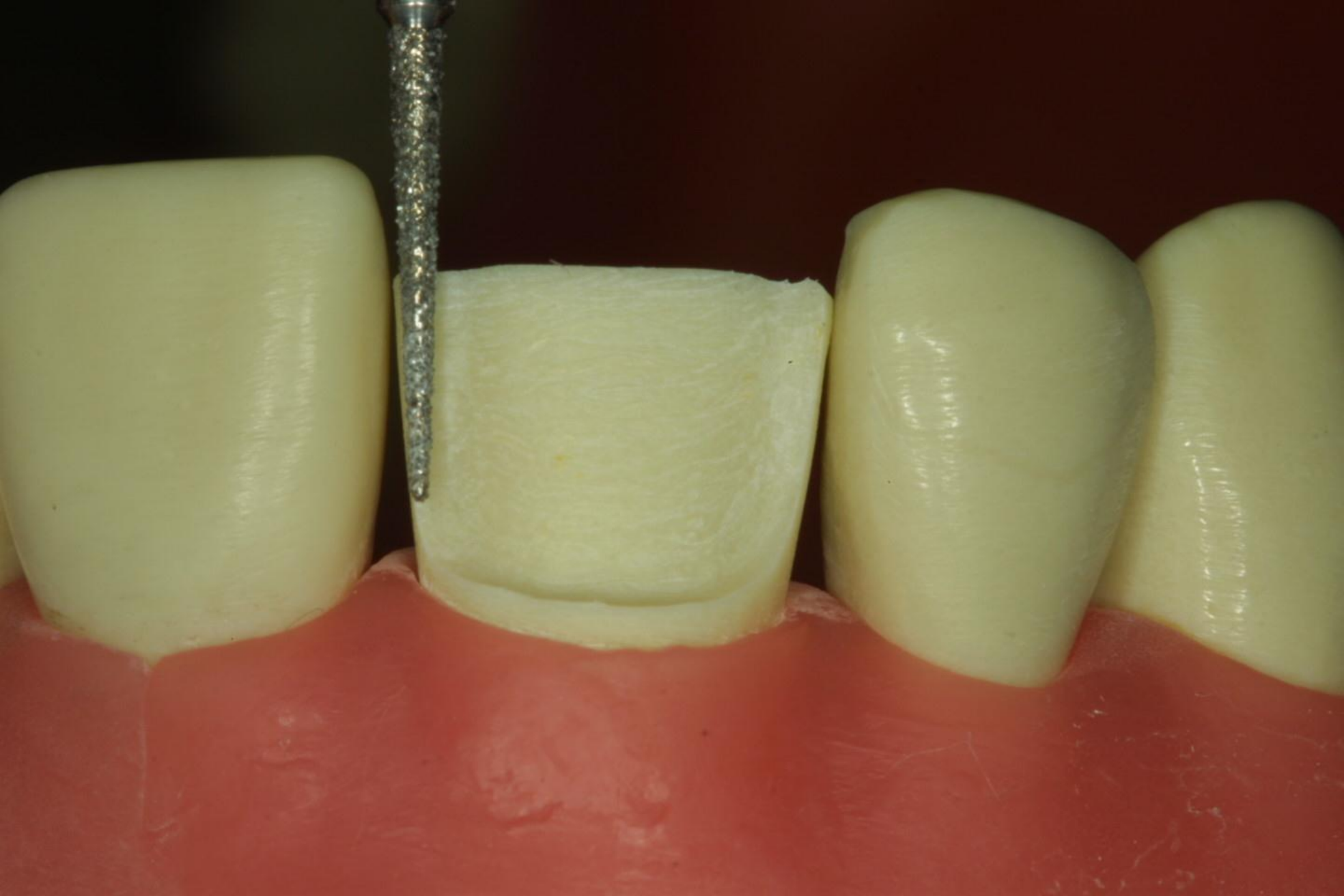
Proximal Reduction



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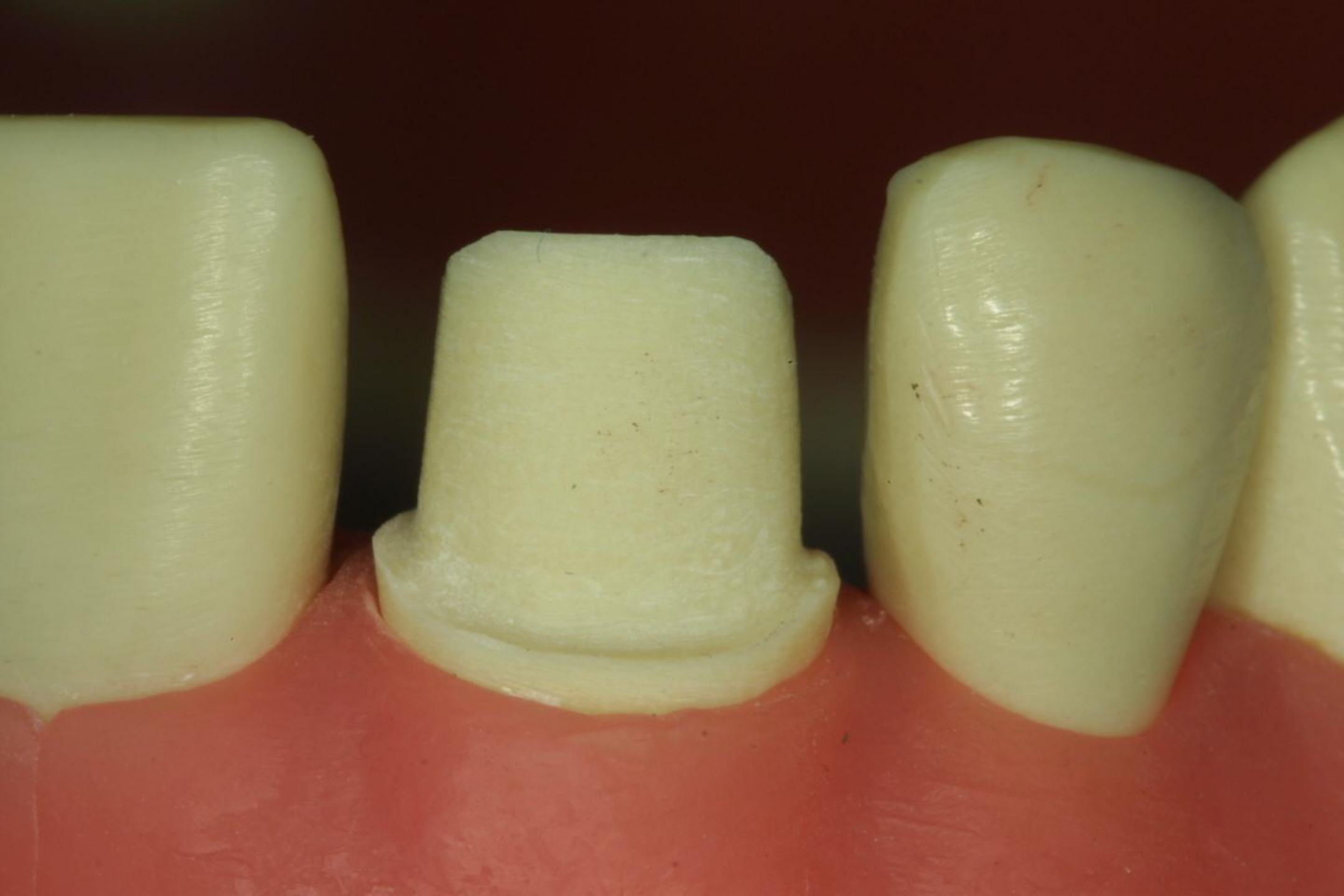
















Lingual Reduction (Cingulum)



Lingual Clearance

- A tapered round end diamond stone is used.
- A chamfer FL of 0.3-0.5 mm.
- The lingual concavity is reduced using a small wheel stone to allow for 0.7-1.0 mm clearance.



878K-012





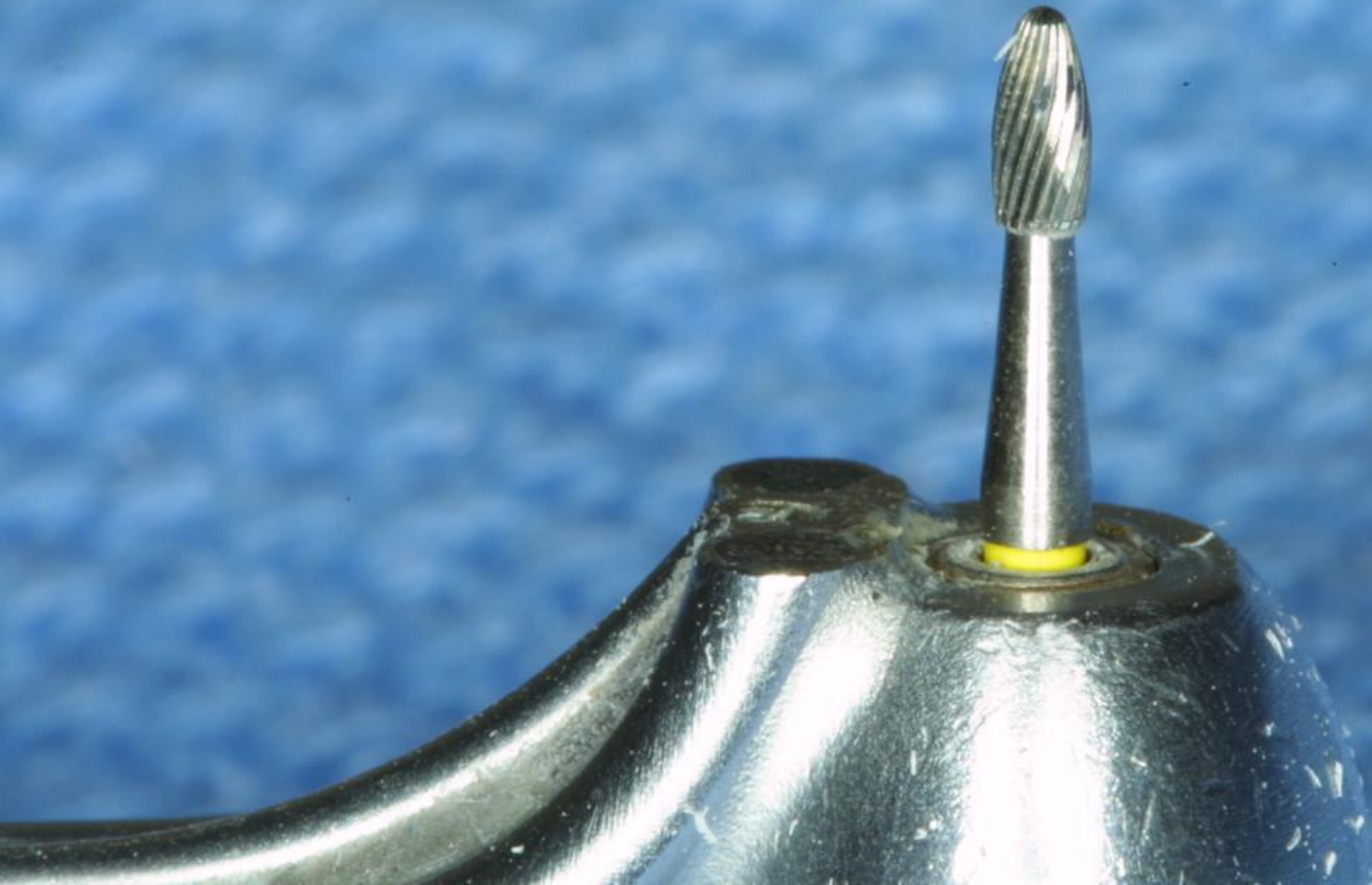


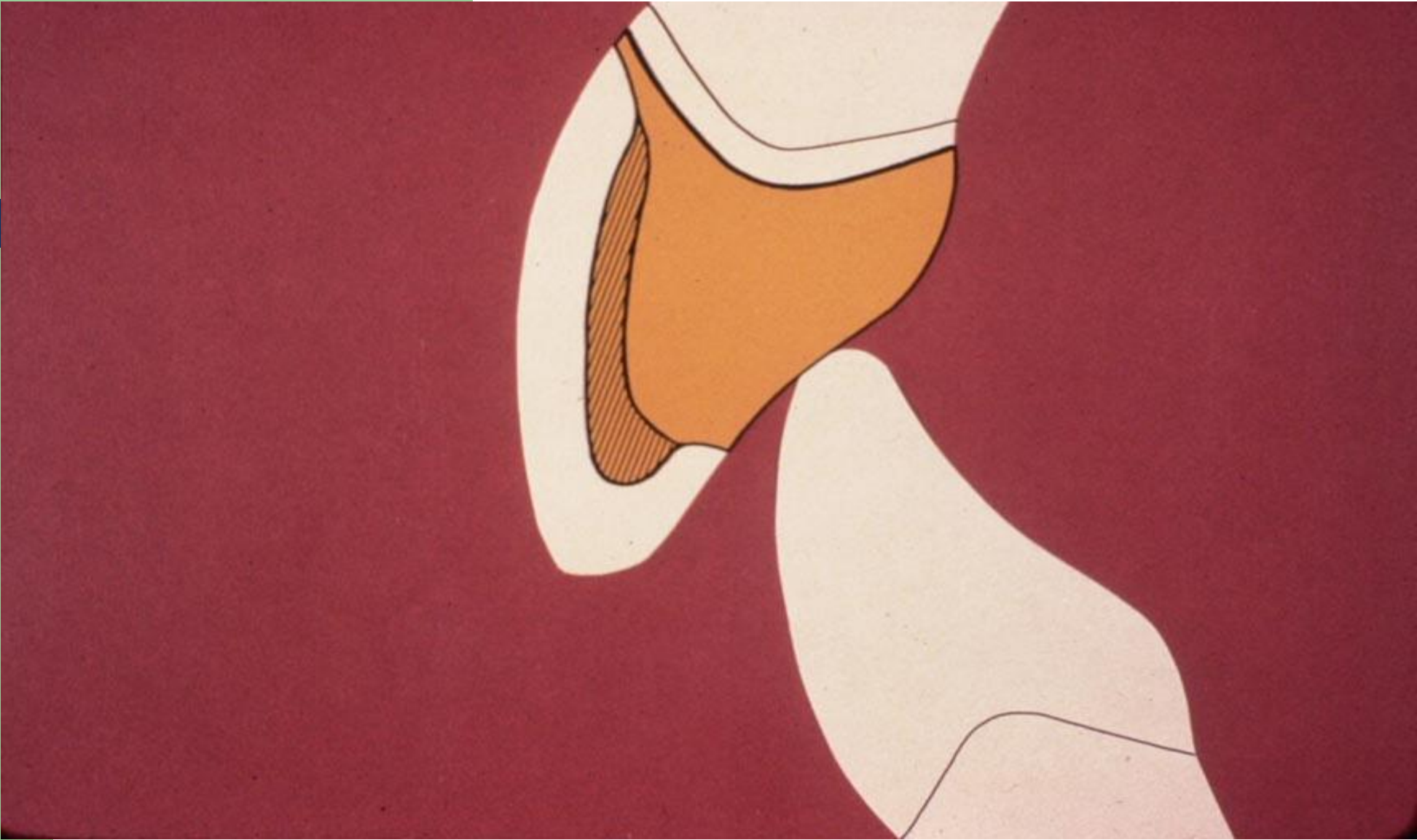


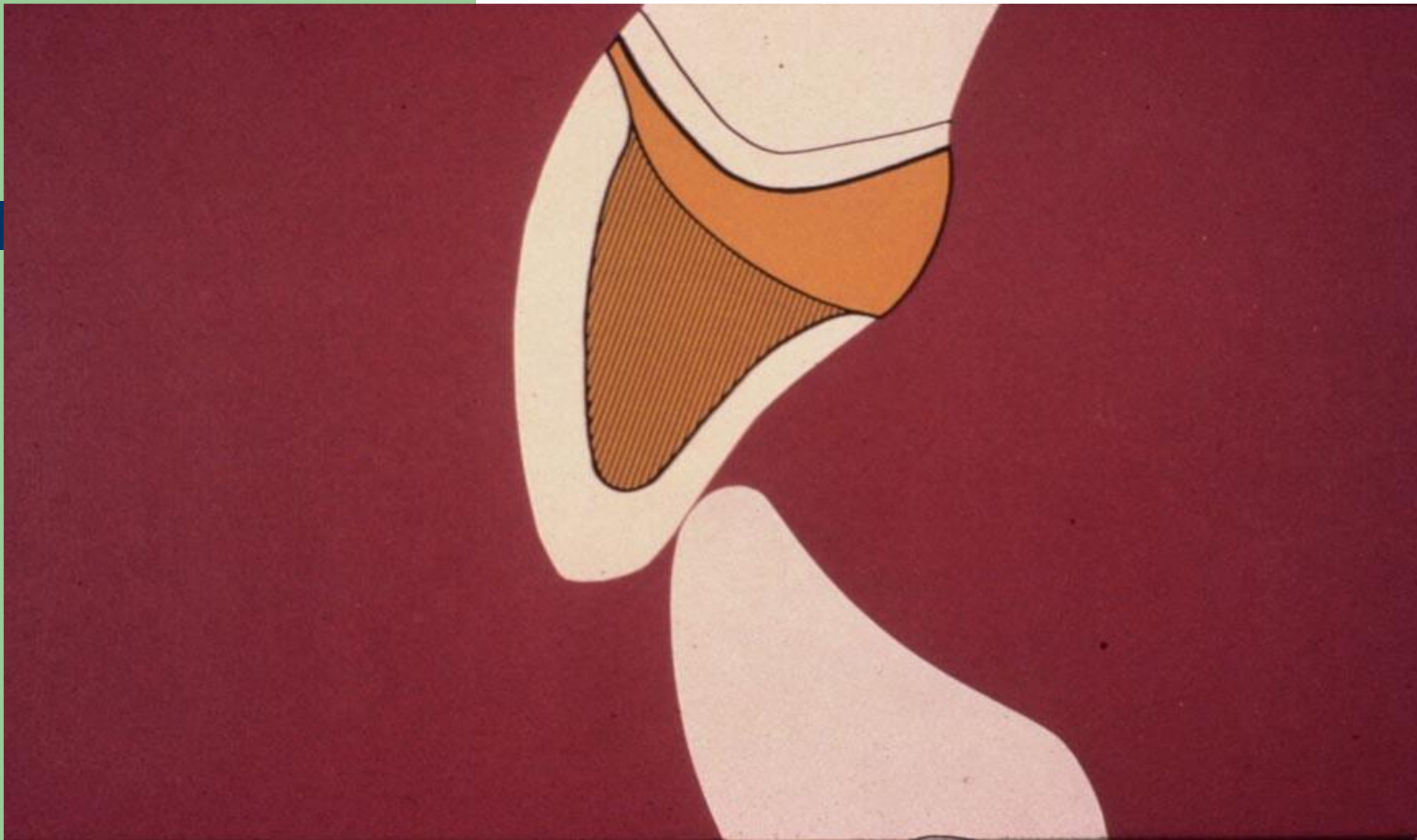
Lingual Reduction (Fossa)



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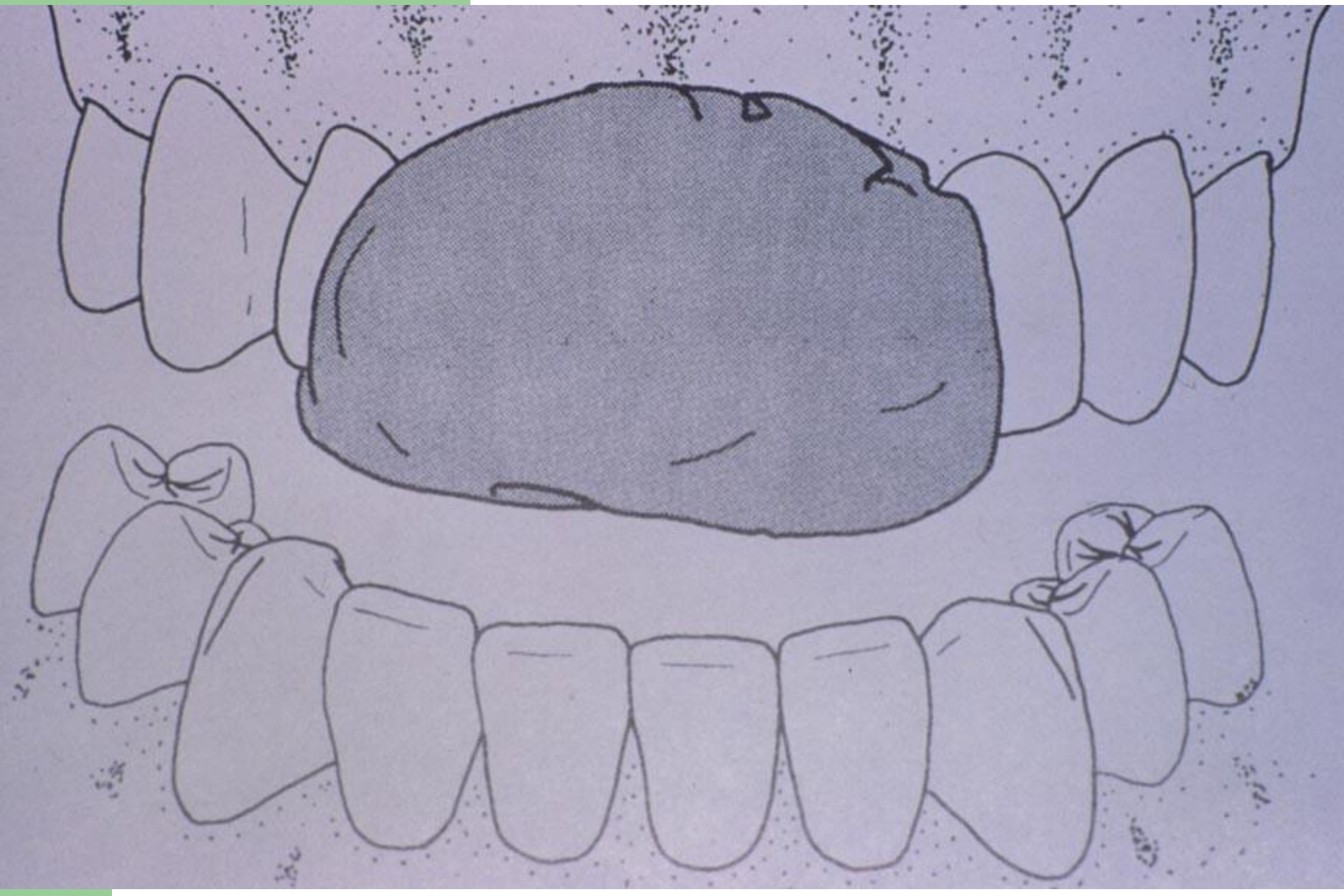


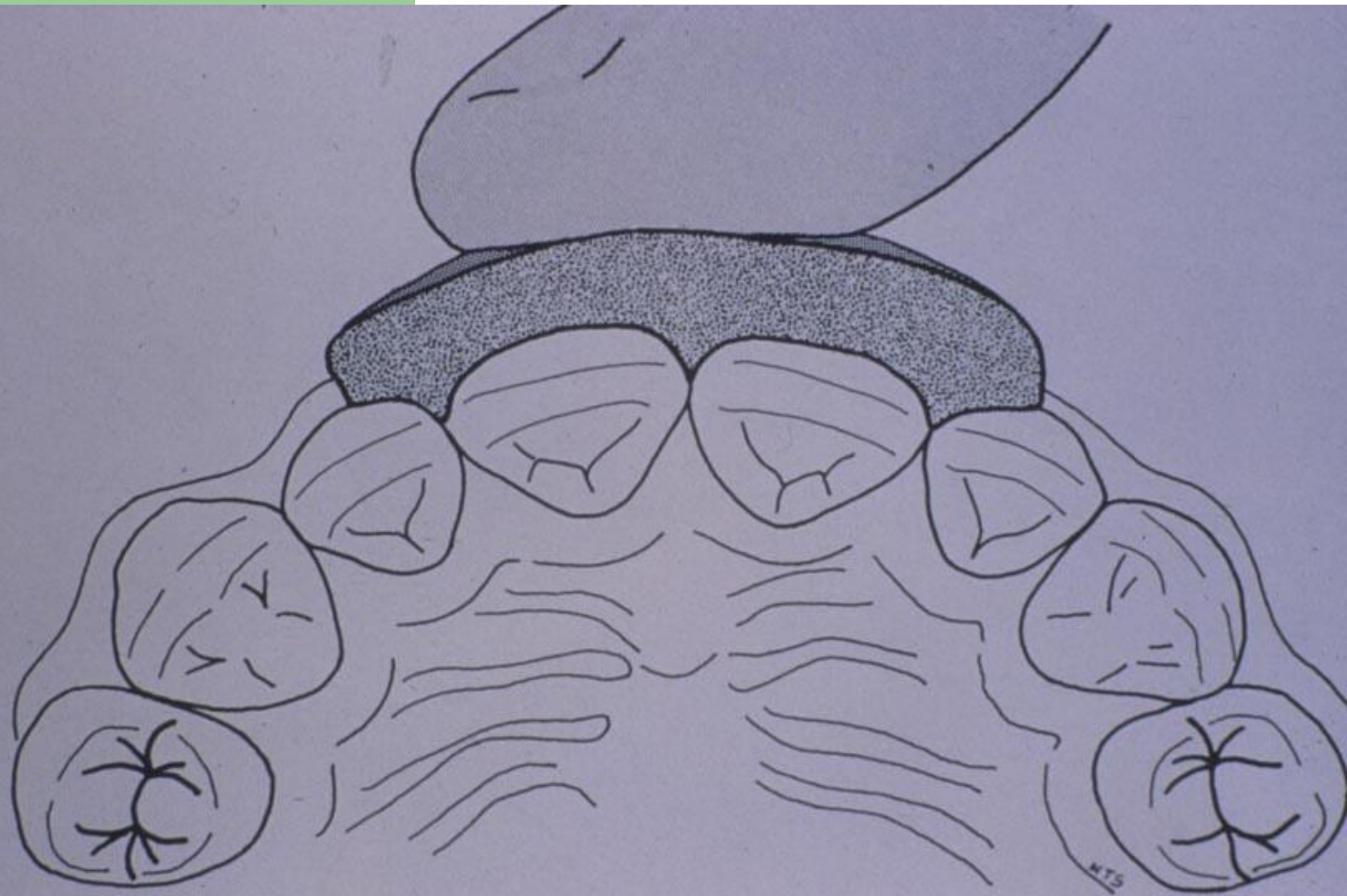


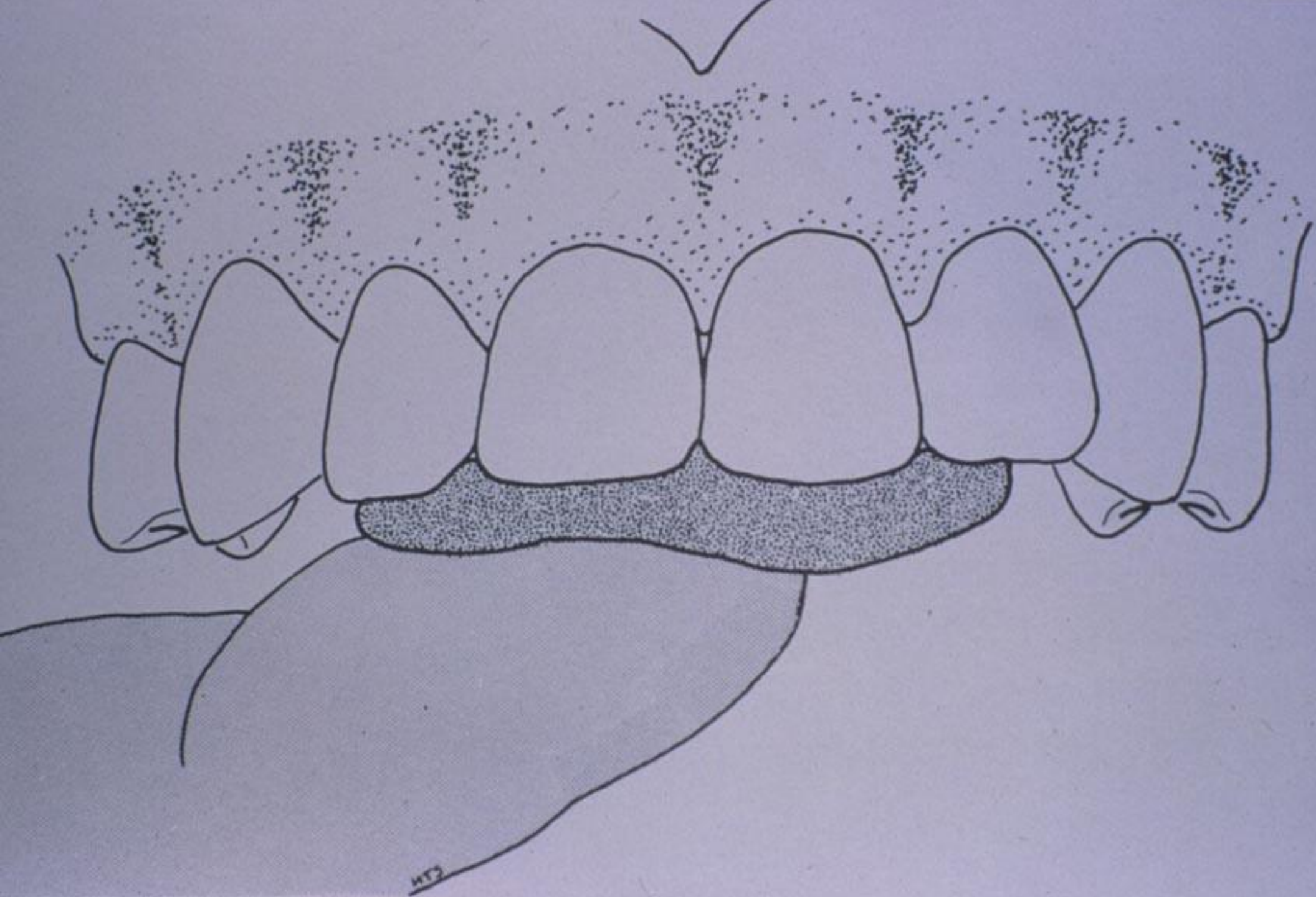


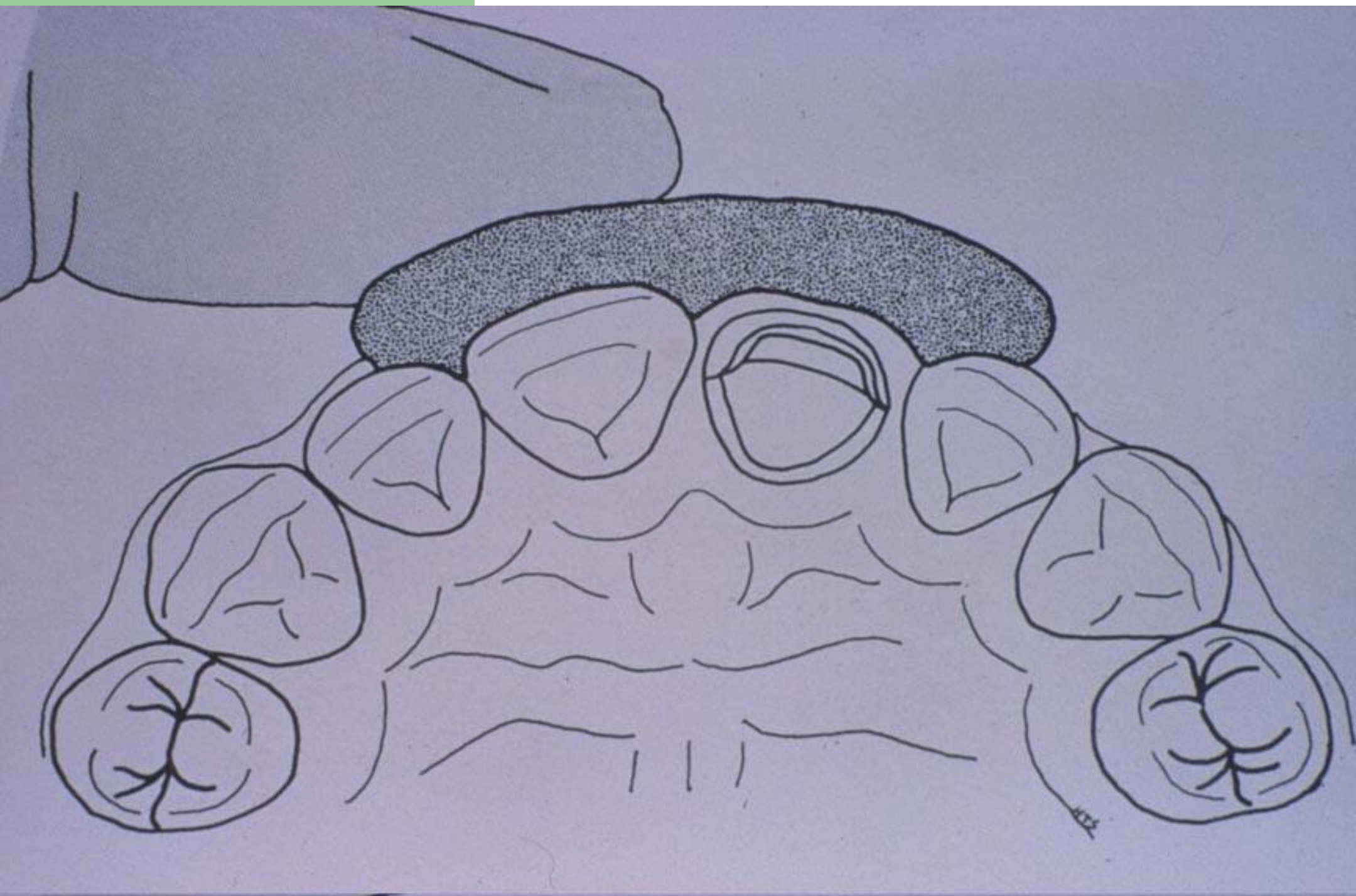


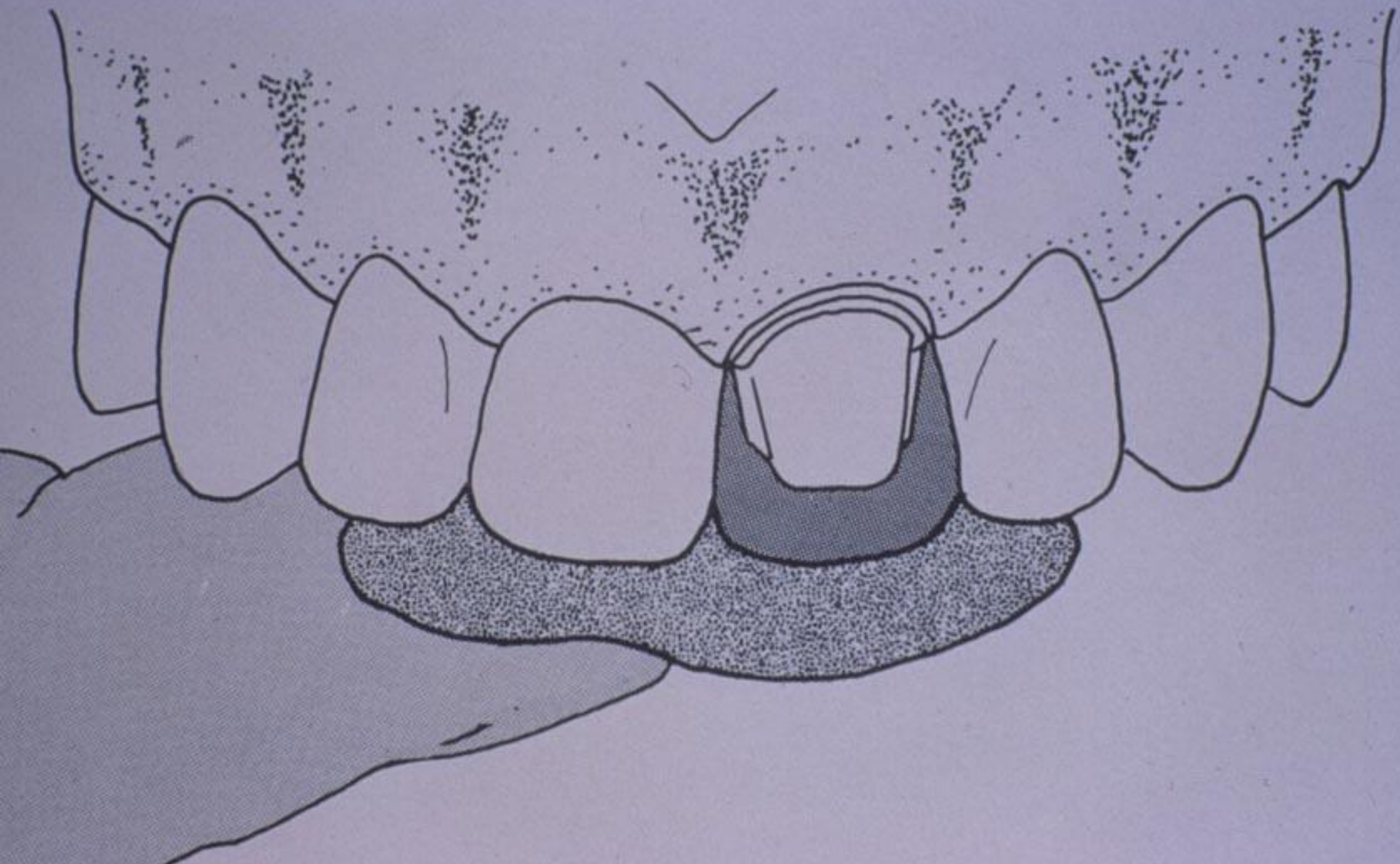








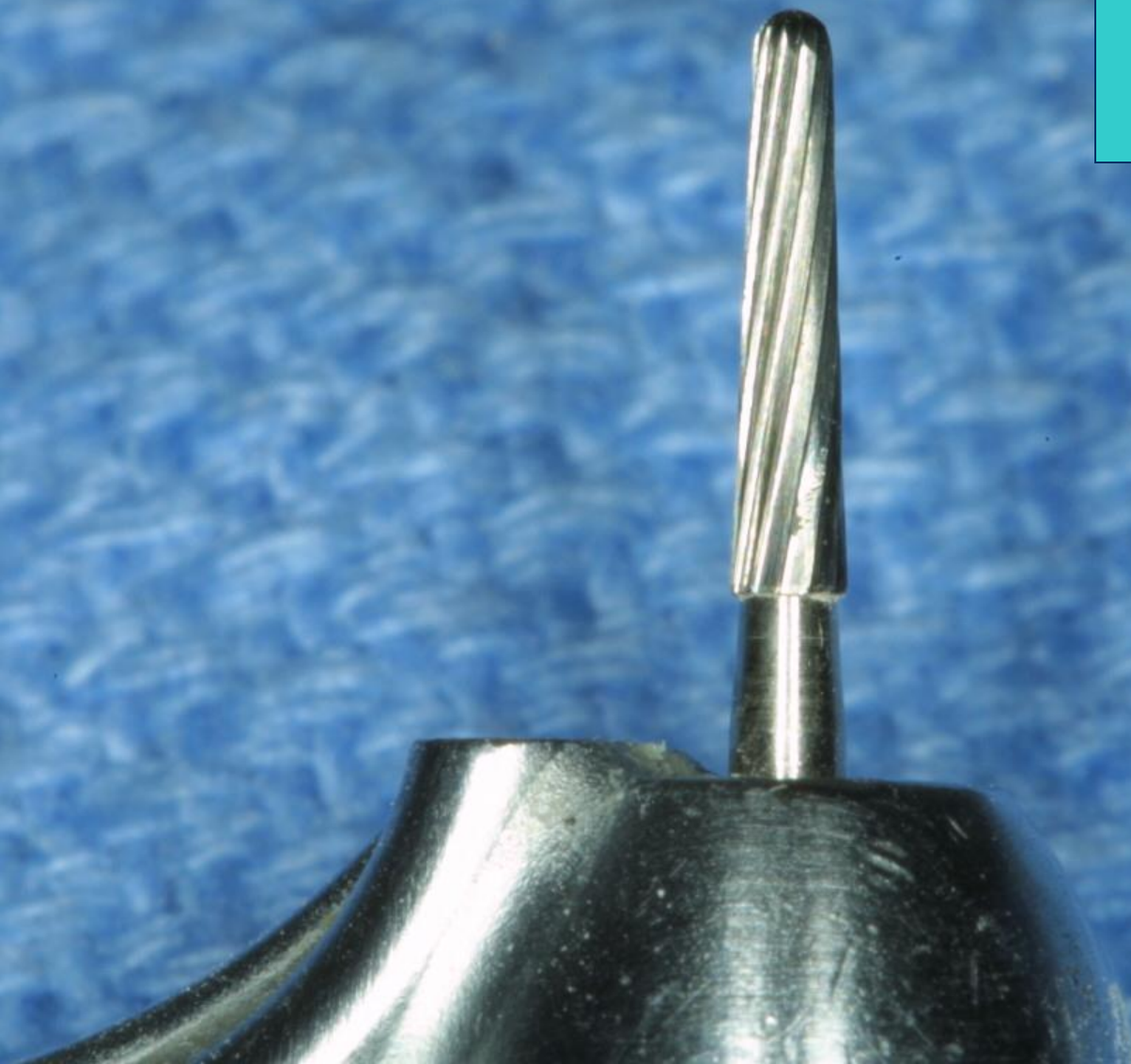




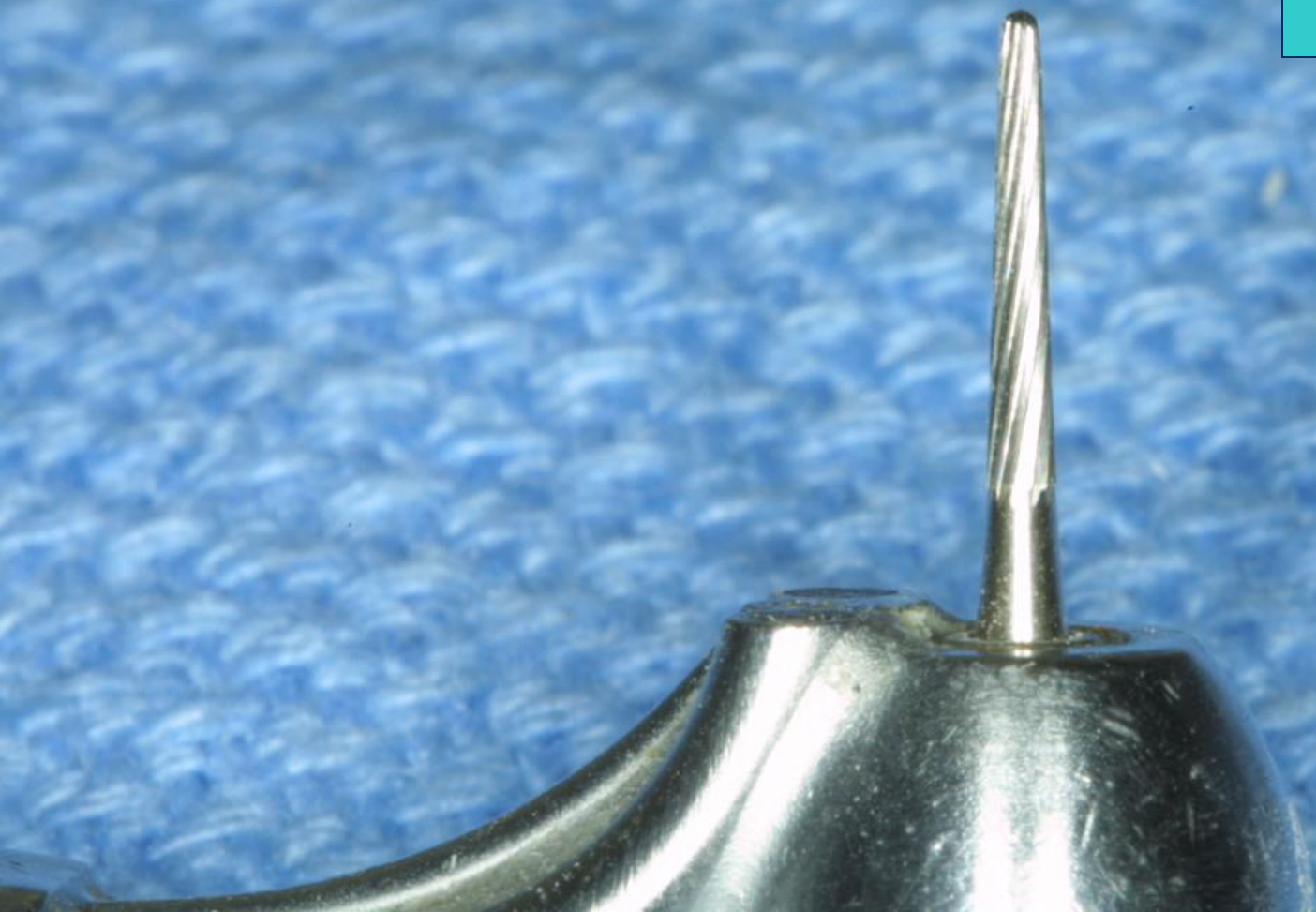
The image features a solid green background. On the left side, there is a white rounded rectangle. To the right of this rectangle, the word "Finish" is written in a dark blue, bold, sans-serif font. Below the word, a dark blue horizontal bar with rounded ends extends across the lower portion of the image.

Finish

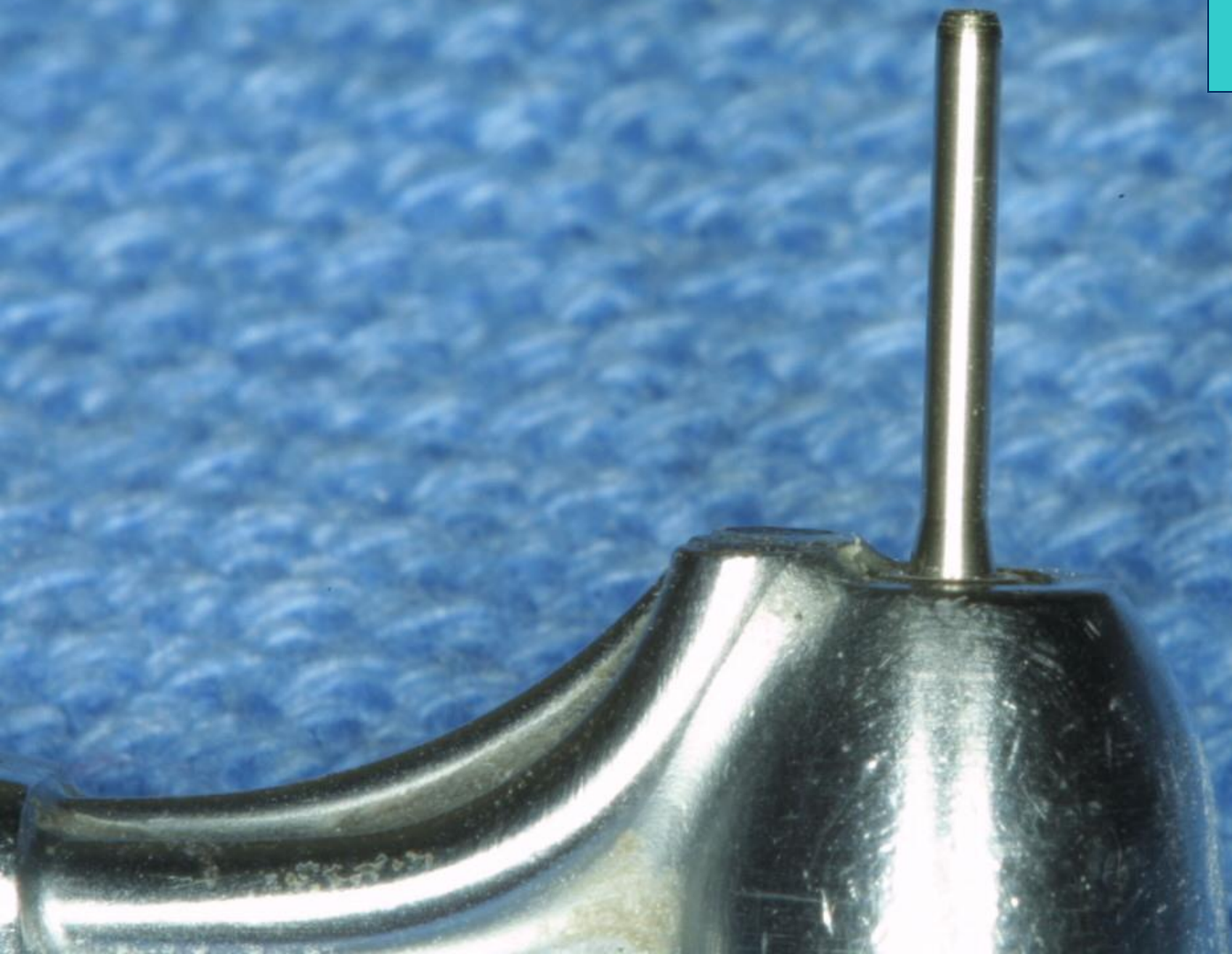
H375R-016



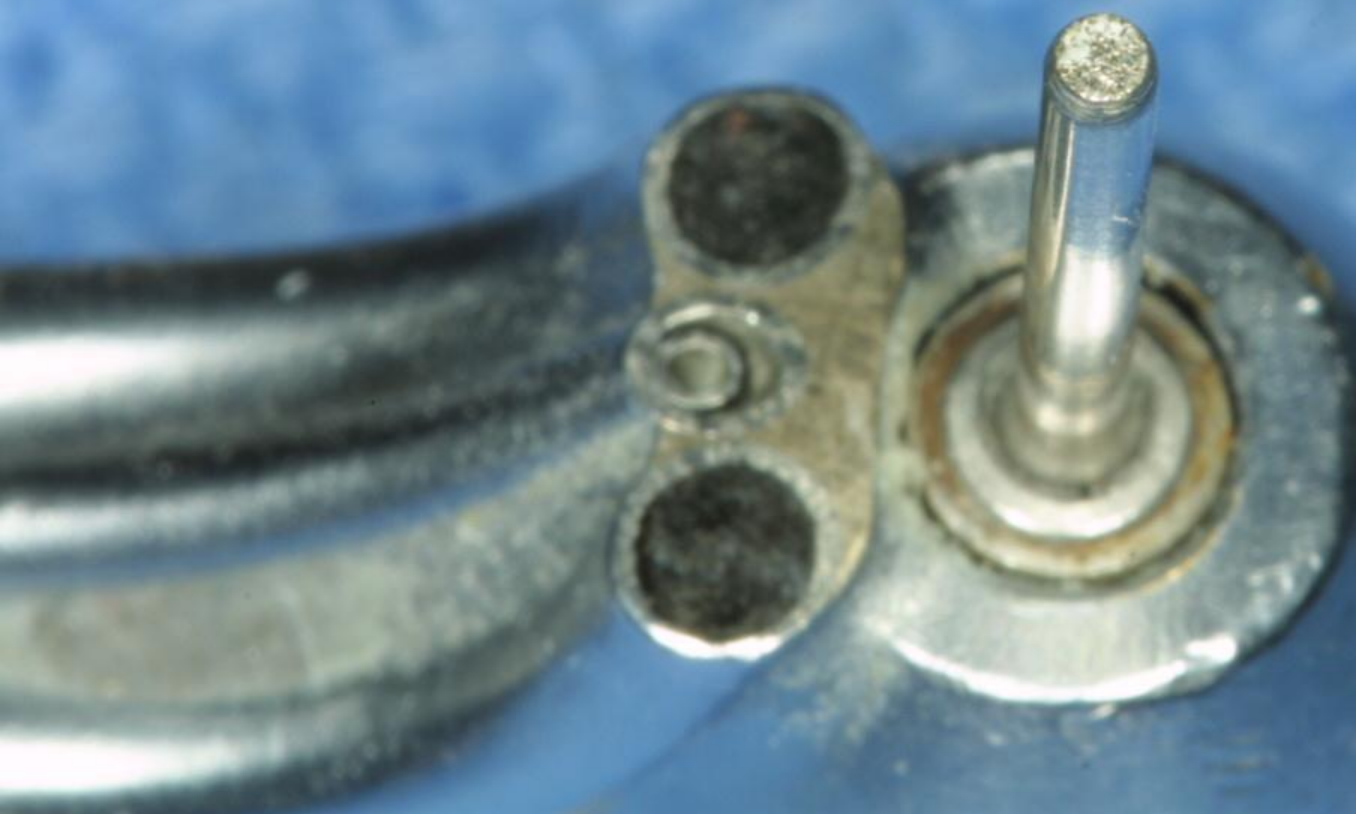
H375R-012



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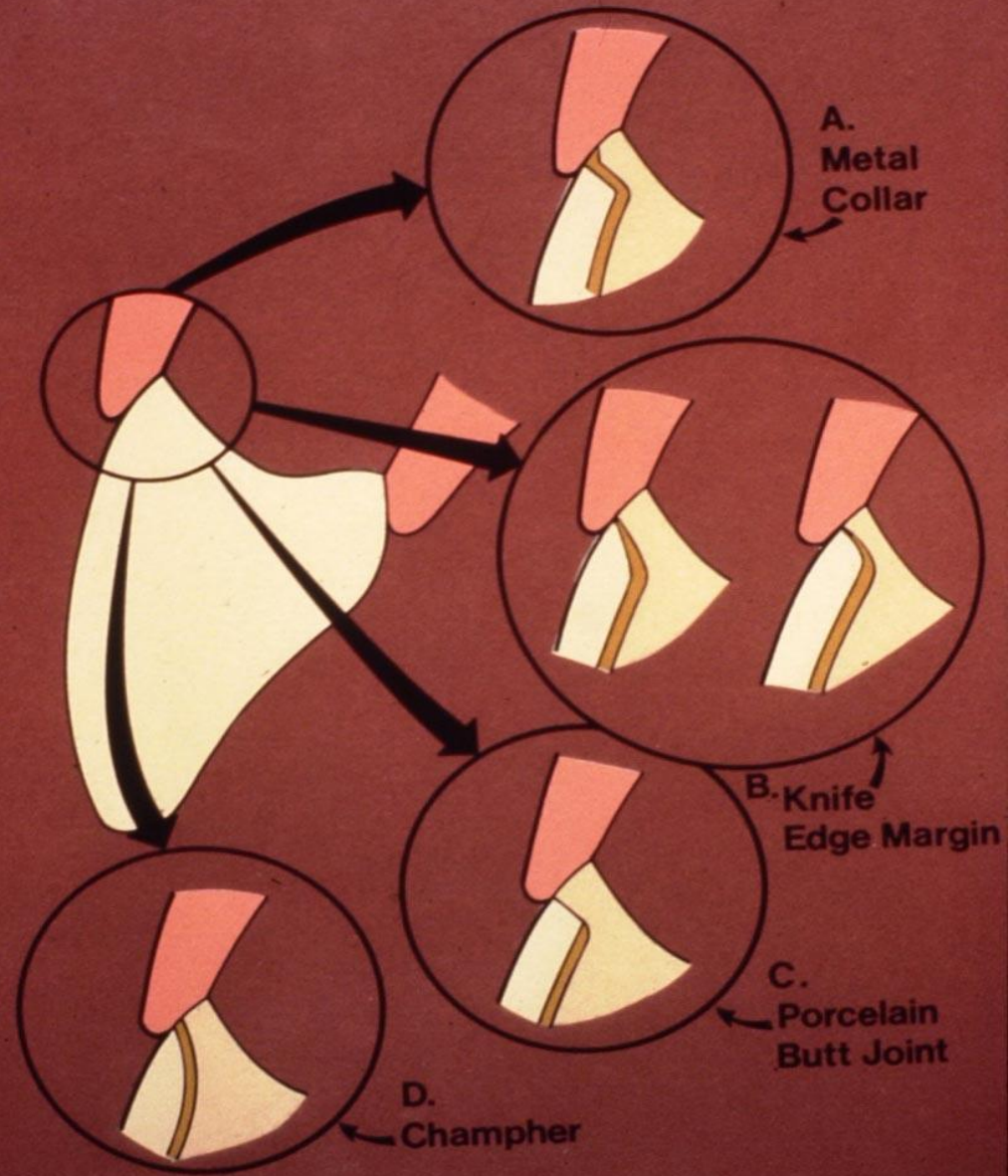












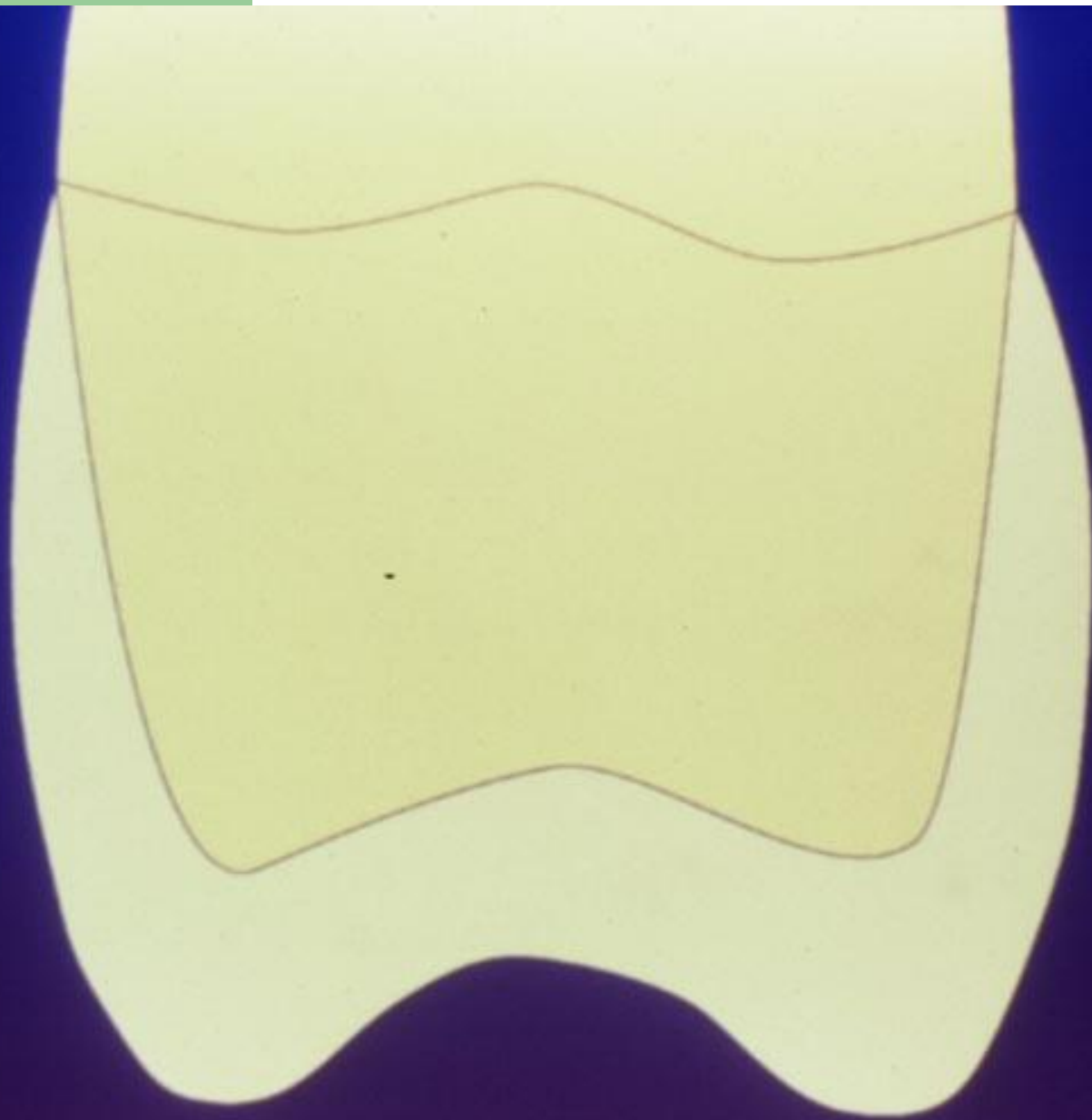


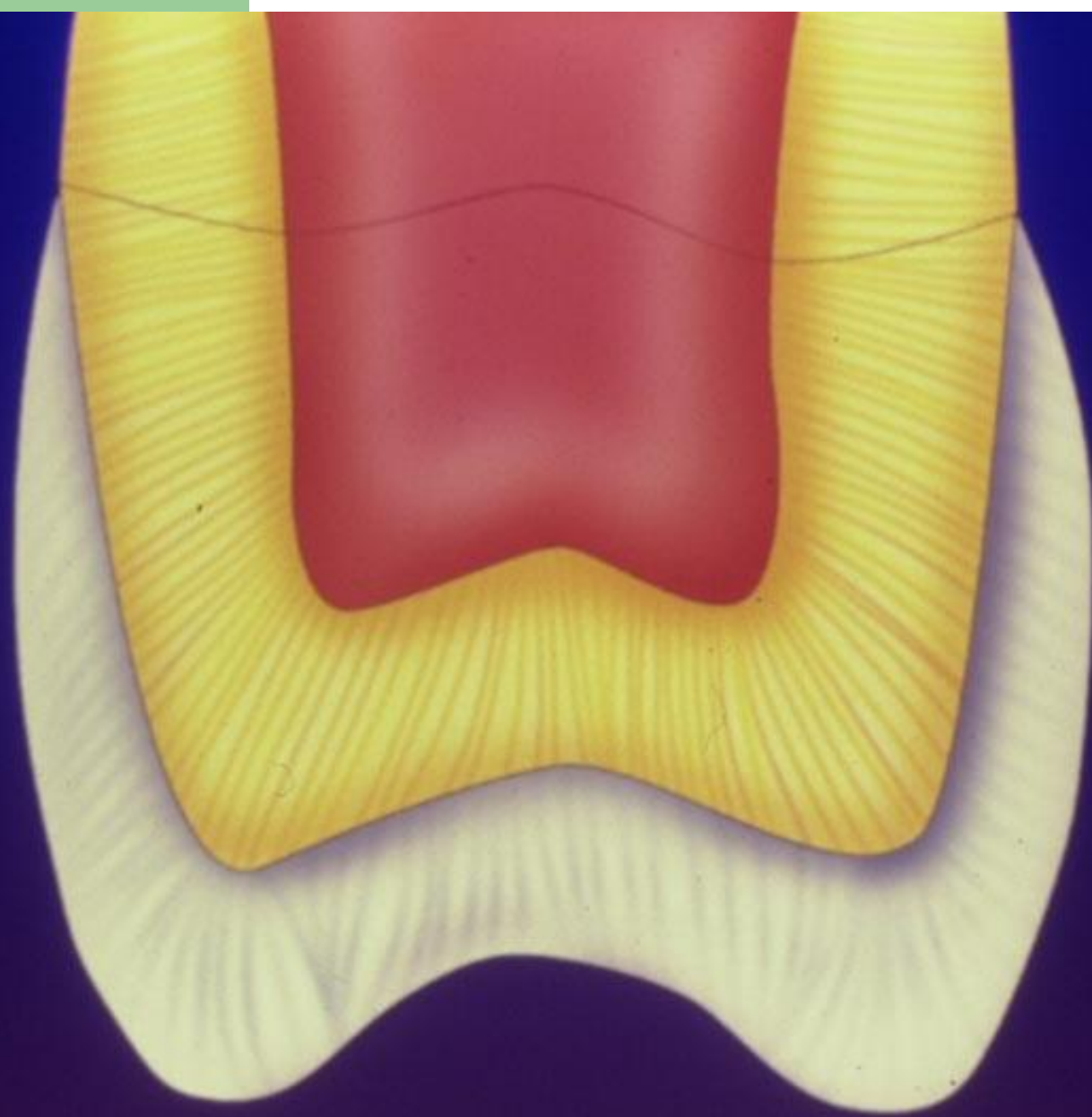
Questions?

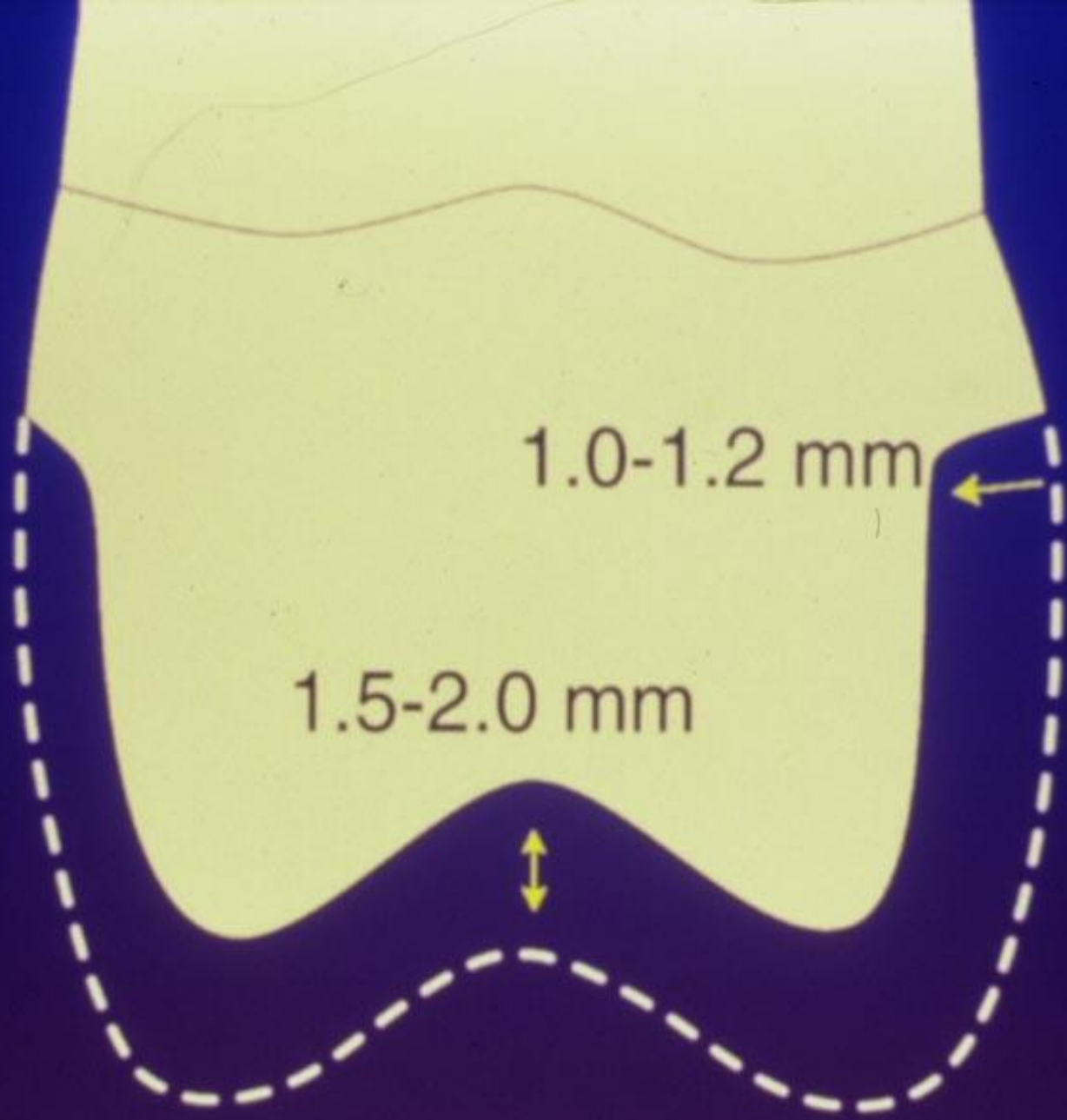


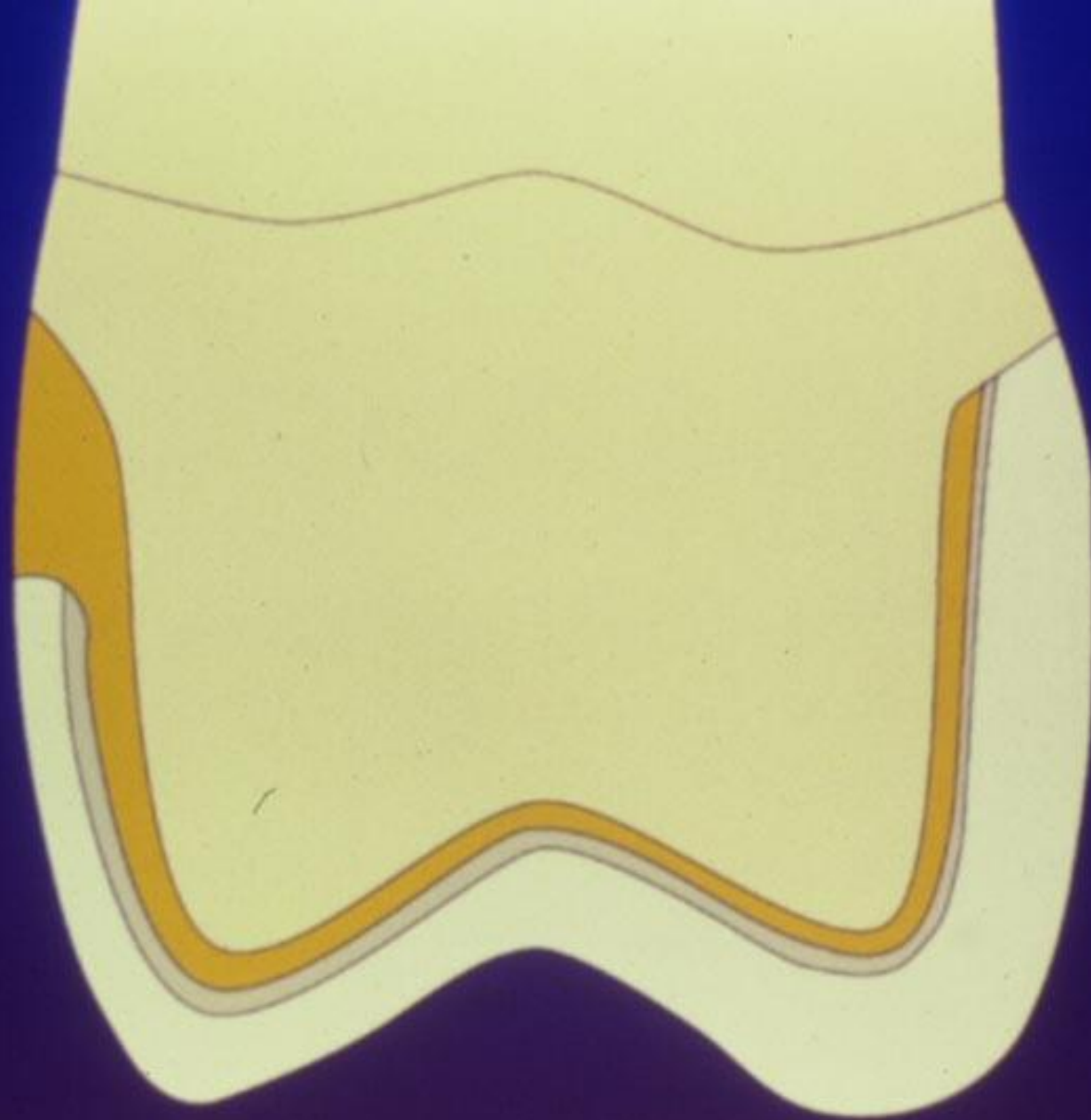
A landscape photograph showing a massive glacier flowing from a mountain range into a calm body of water. The glacier's surface is textured with various shades of blue and white, indicating different ice layers and meltwater. Dark, rocky outcrops are visible within the ice. In the foreground, the dark green, needle-covered branches of evergreen trees are visible, framing the bottom of the scene. The sky is a pale, overcast blue.

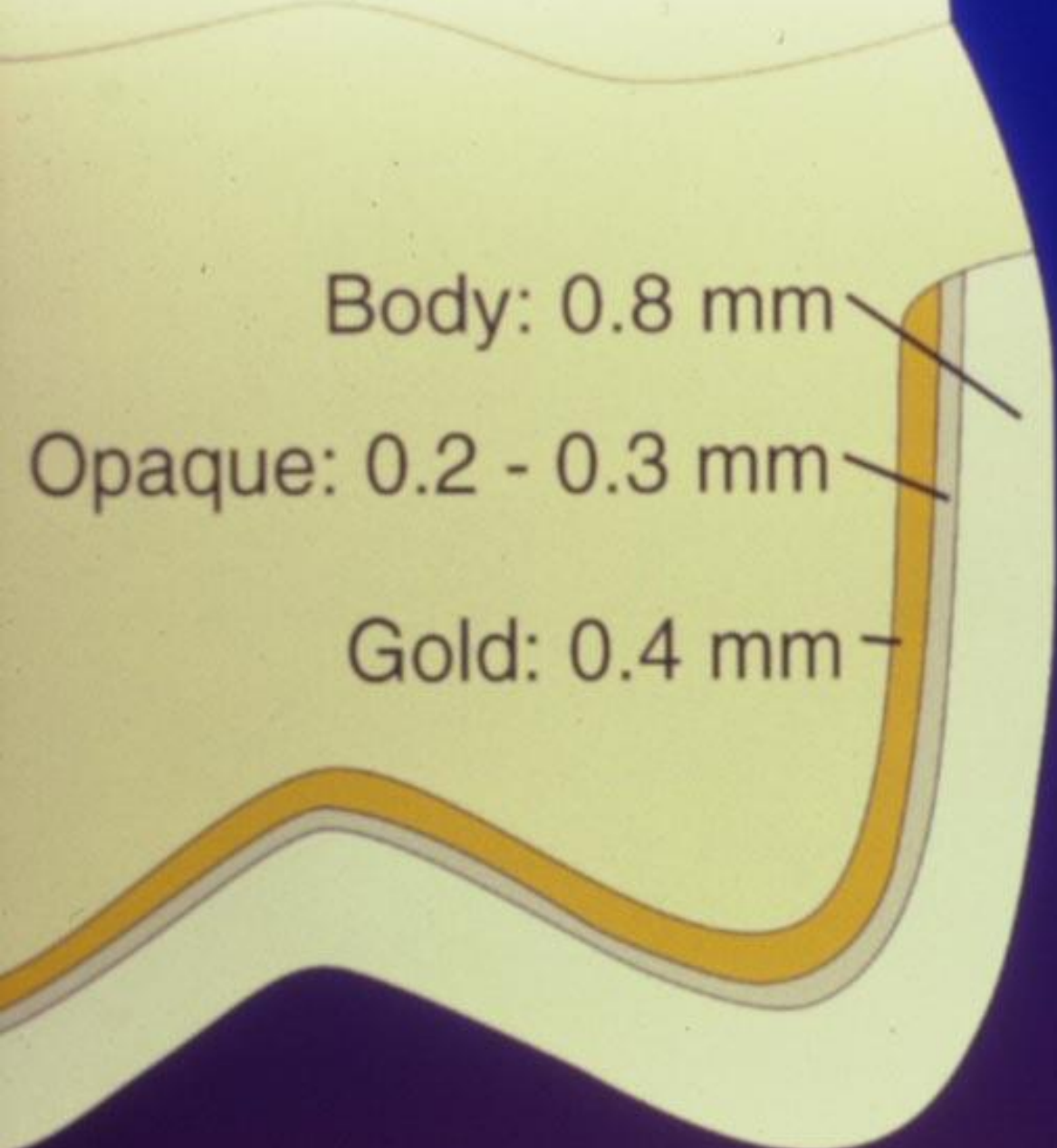
Thank You












A diagram showing a cross-section of a dental crown. The crown is composed of three layers: a thick yellow 'Body' layer, a thin grey 'Opaque' layer, and a thin gold 'Gold' layer. The crown is shown on a wavy line representing the tooth preparation. The background is a solid blue color.

Body: 0.8 mm

Opaque: 0.2 - 0.3 mm

Gold: 0.4 mm





A diagram showing a cross-section of a material with three distinct layers. The top layer is a thick, light yellow region. Below it is a thin, wavy orange layer. The bottom layer is a thin, wavy grey layer. The entire structure is set against a dark blue background. Labels with leader lines point to each layer.

Body: 0.8 mm

Opaque: 0.2 - 0.3 mm

Gold: 0.4 mm

Preparation Design

- Decide in advance with patient

- Occlusal design

- Porcelain
 - Porcelain/metal
 - All metal

- Margin design

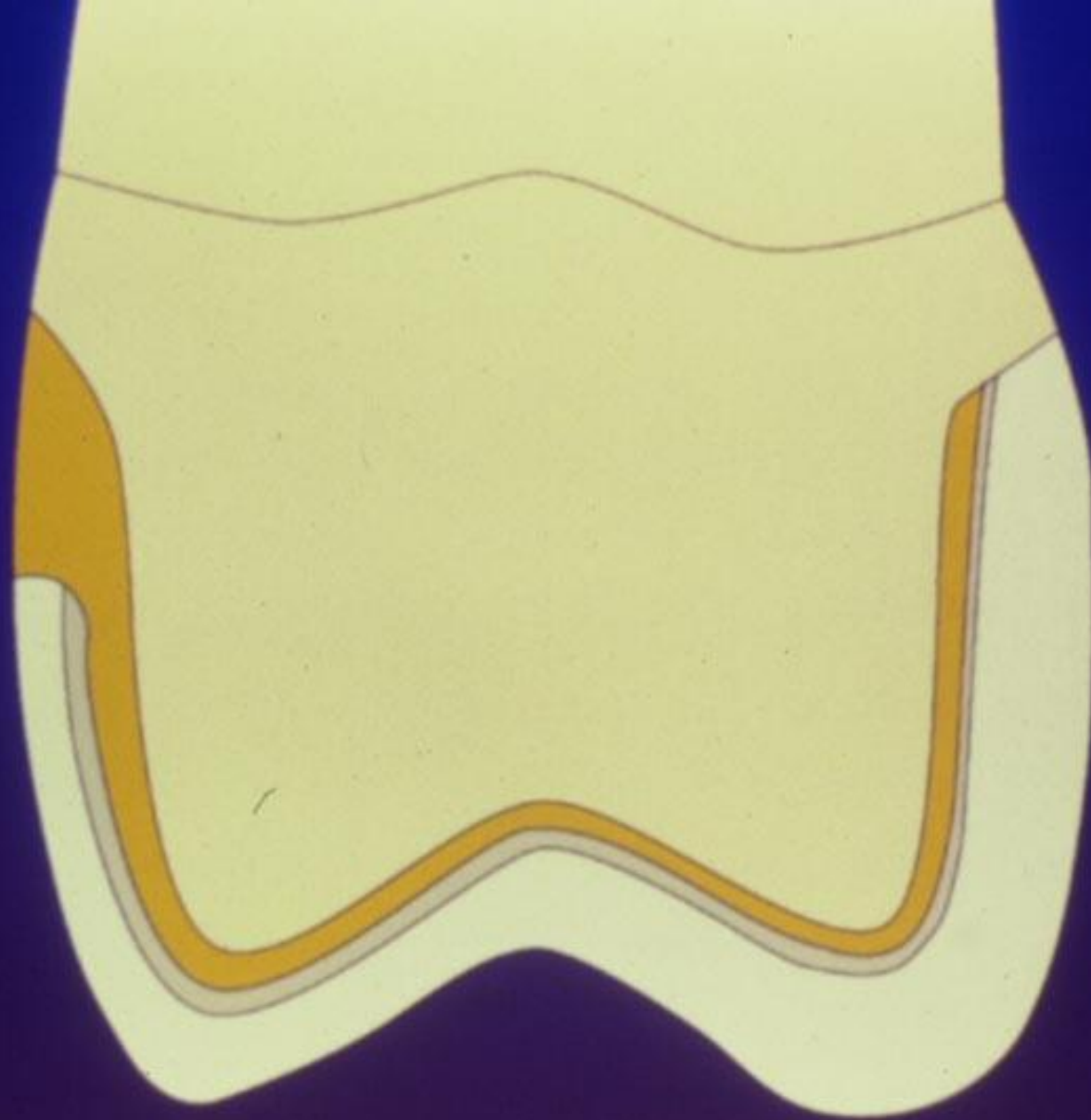
- Porcelain butt joint
 - Metal collar



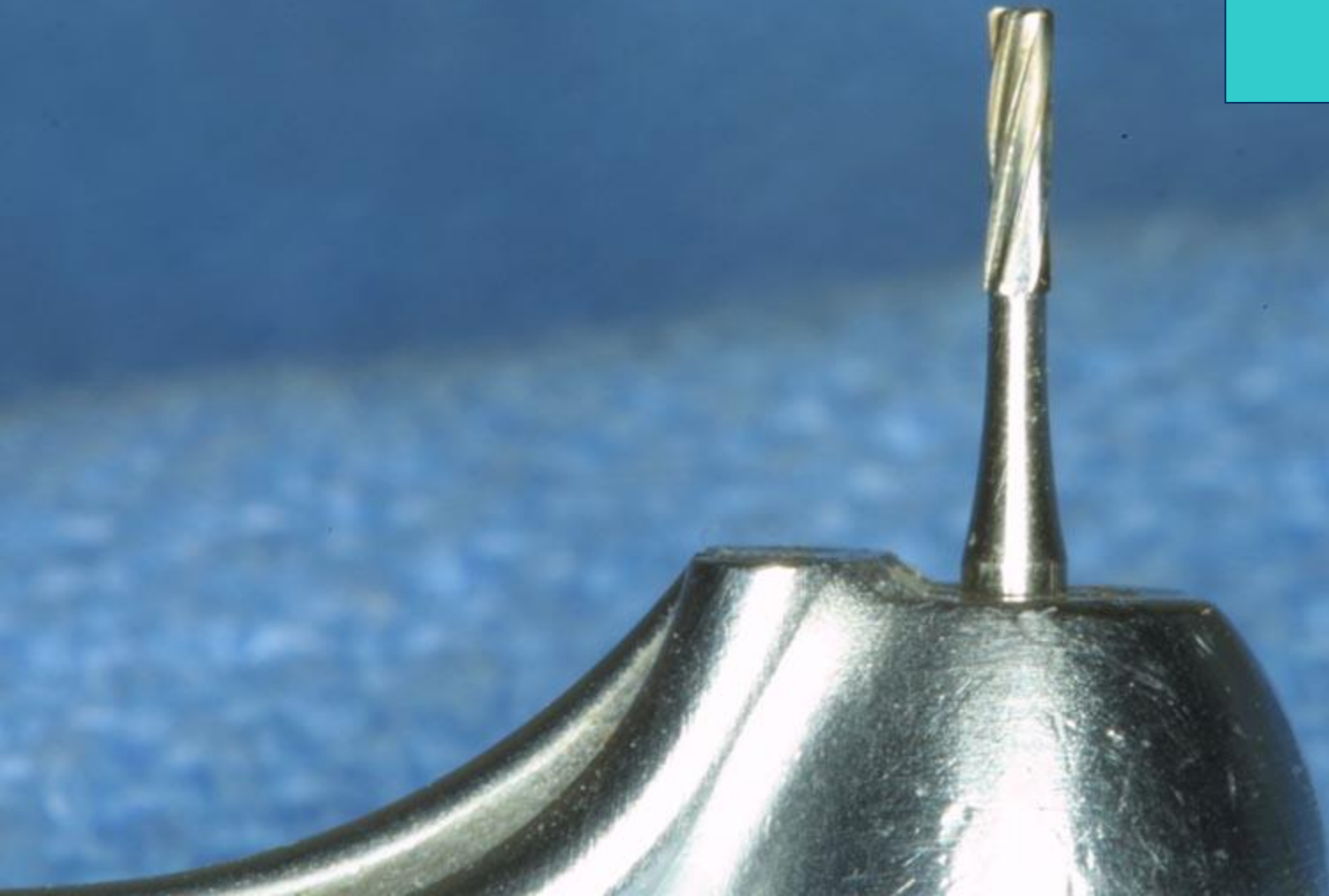


Occlusal Reduction/Clearance

- 1.5 mm clearance on lingual cusps
- 1.5-2.0 mm clearance on facial cusps
 - Amount of clearance necessary determined by planned occlusal surface
 - Clearance the same for maxillary & mandibular
- Follow original occlusal planes
- Reduction parallels opposing triangular ridges



57-010













RGS-4



























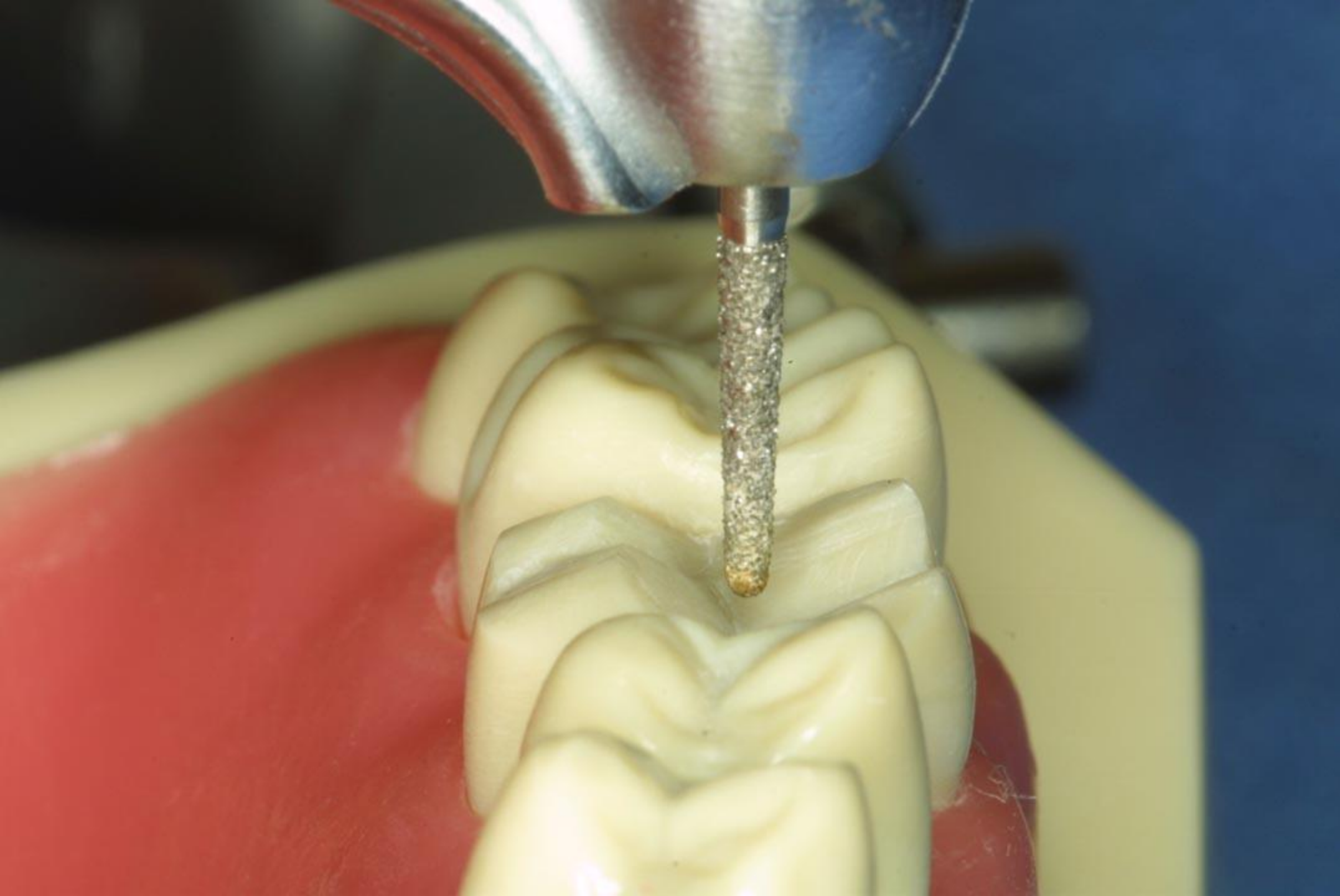


Axial Reduction & Finish Lines

- Facial reduction (856-016)
 - 1.5 mm reduction on axial wall
 - Rounded internal line angle
- Initial interproximal reduction (850-012)
 - Break contact gingivally
 - Minimum 3 mm long axial walls
- Axial reduction (878K-012)
 - 1 mm axial reduction
 - 6-10 degree occlusal taper of opposing walls

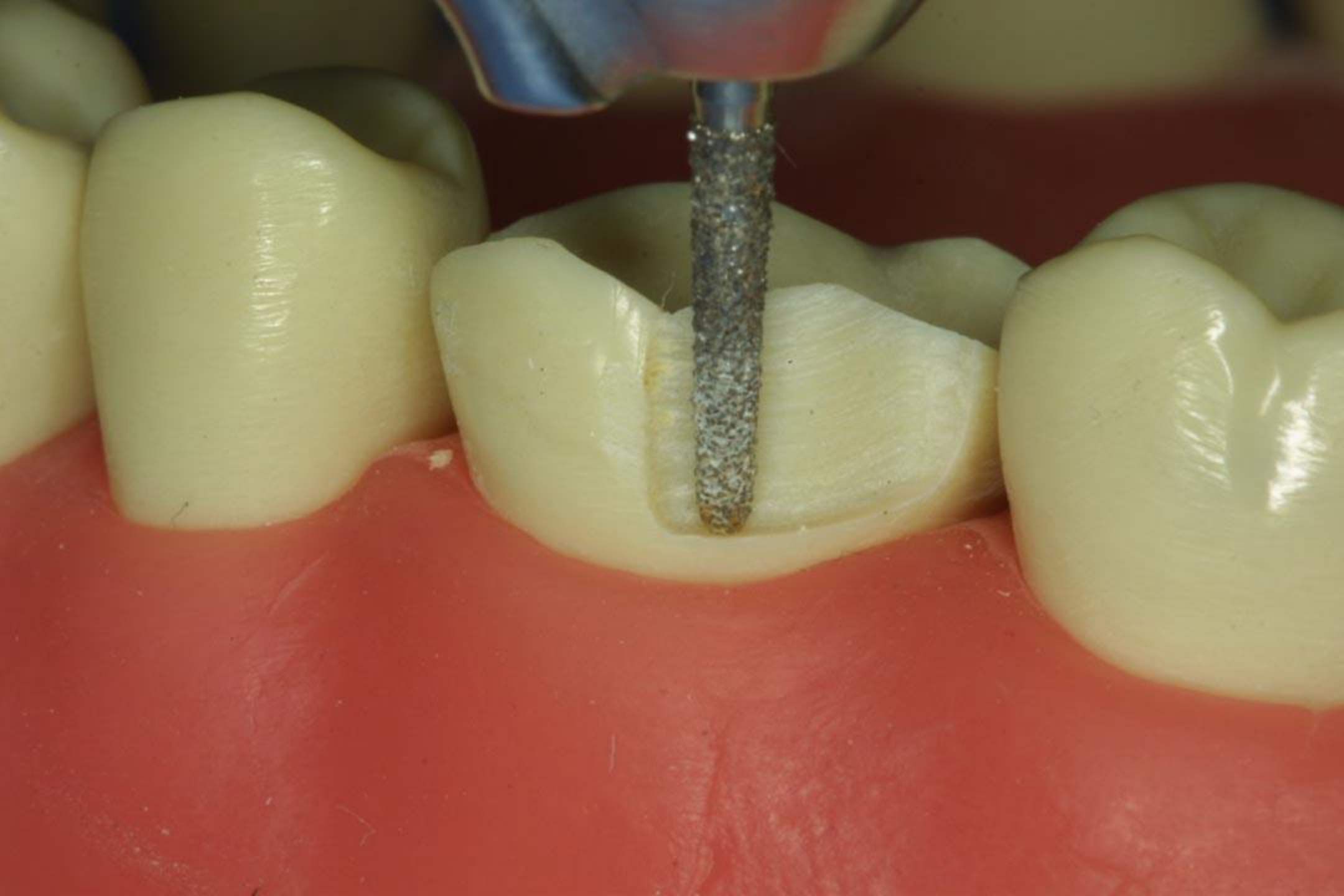
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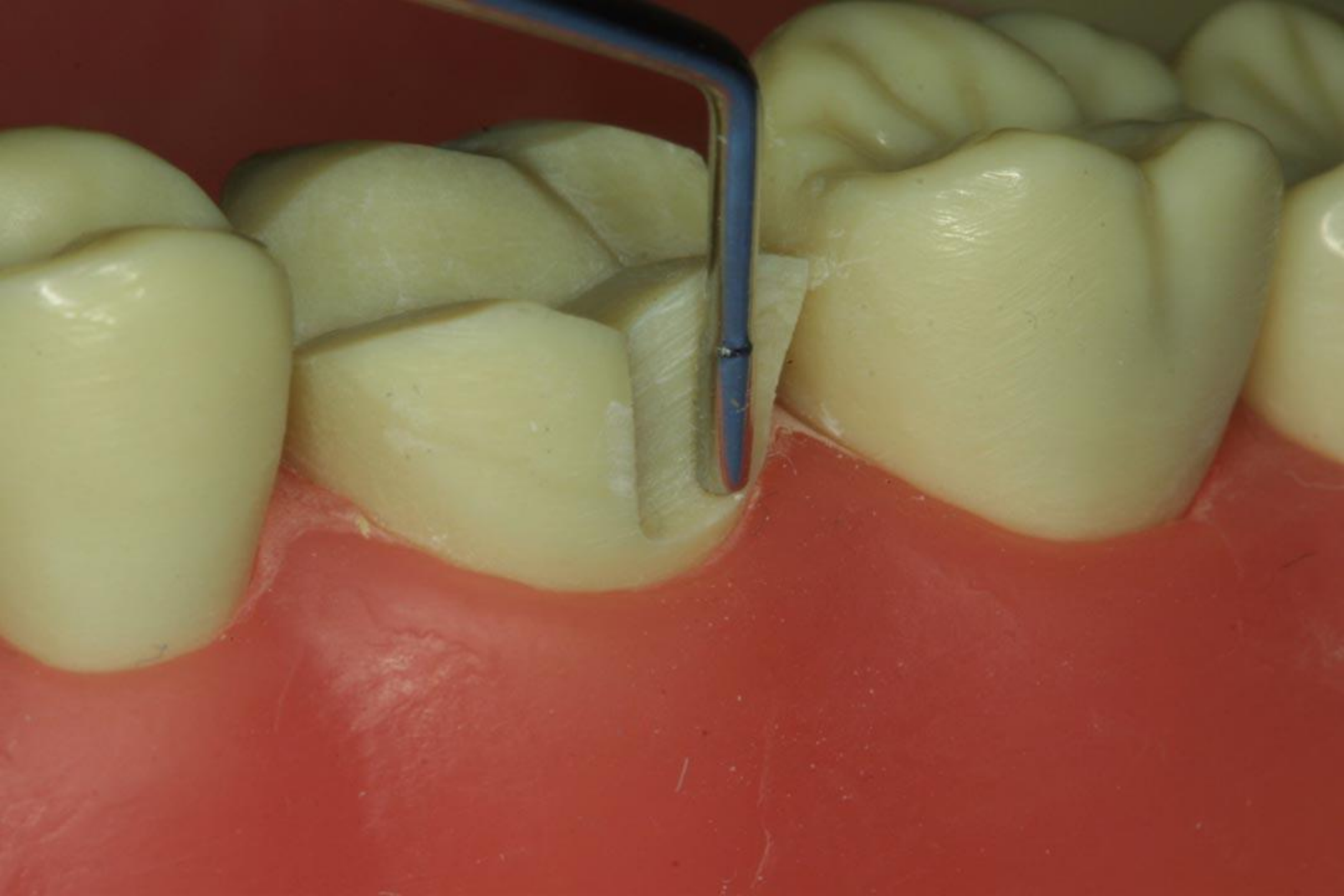




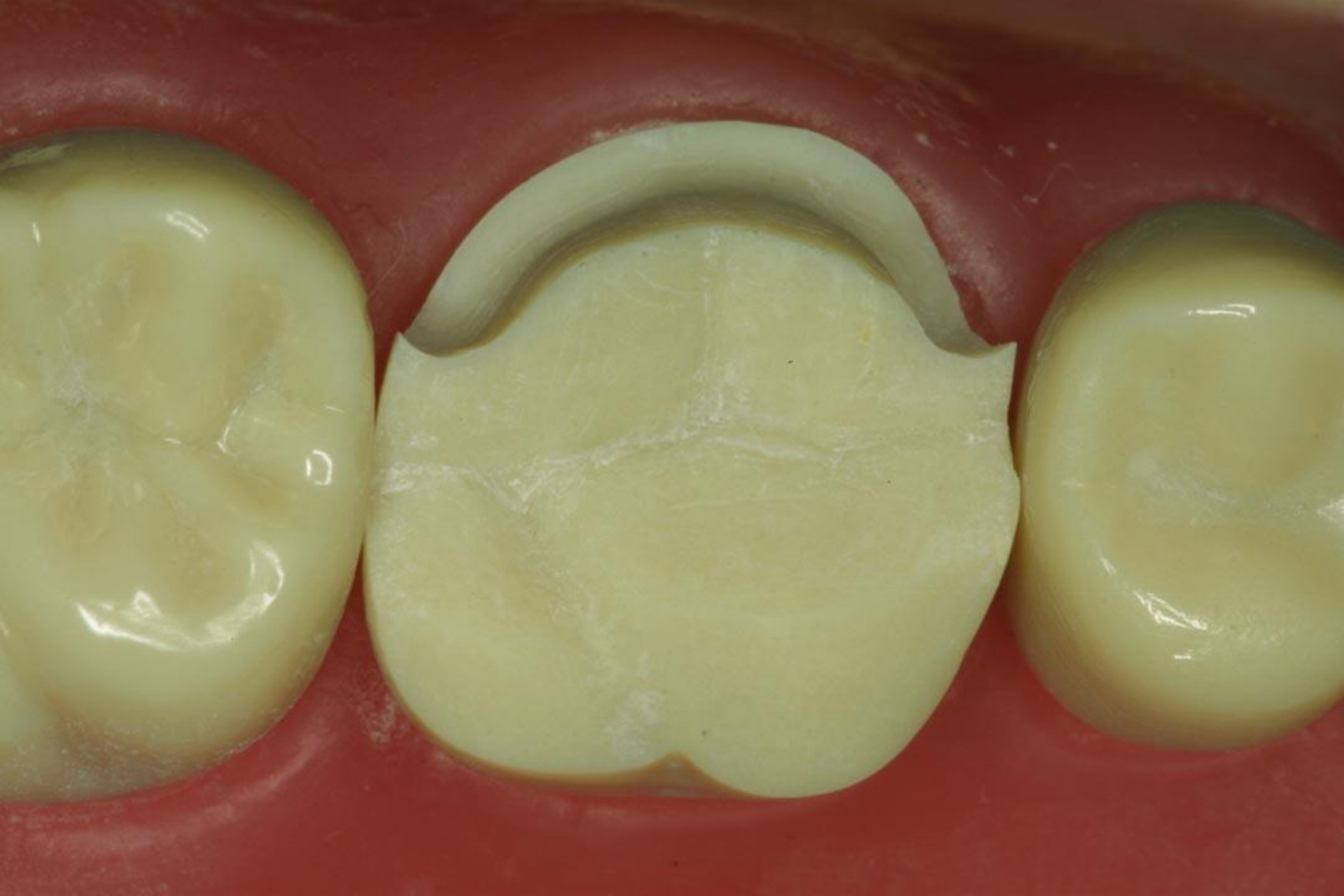


RGS-3















850-012

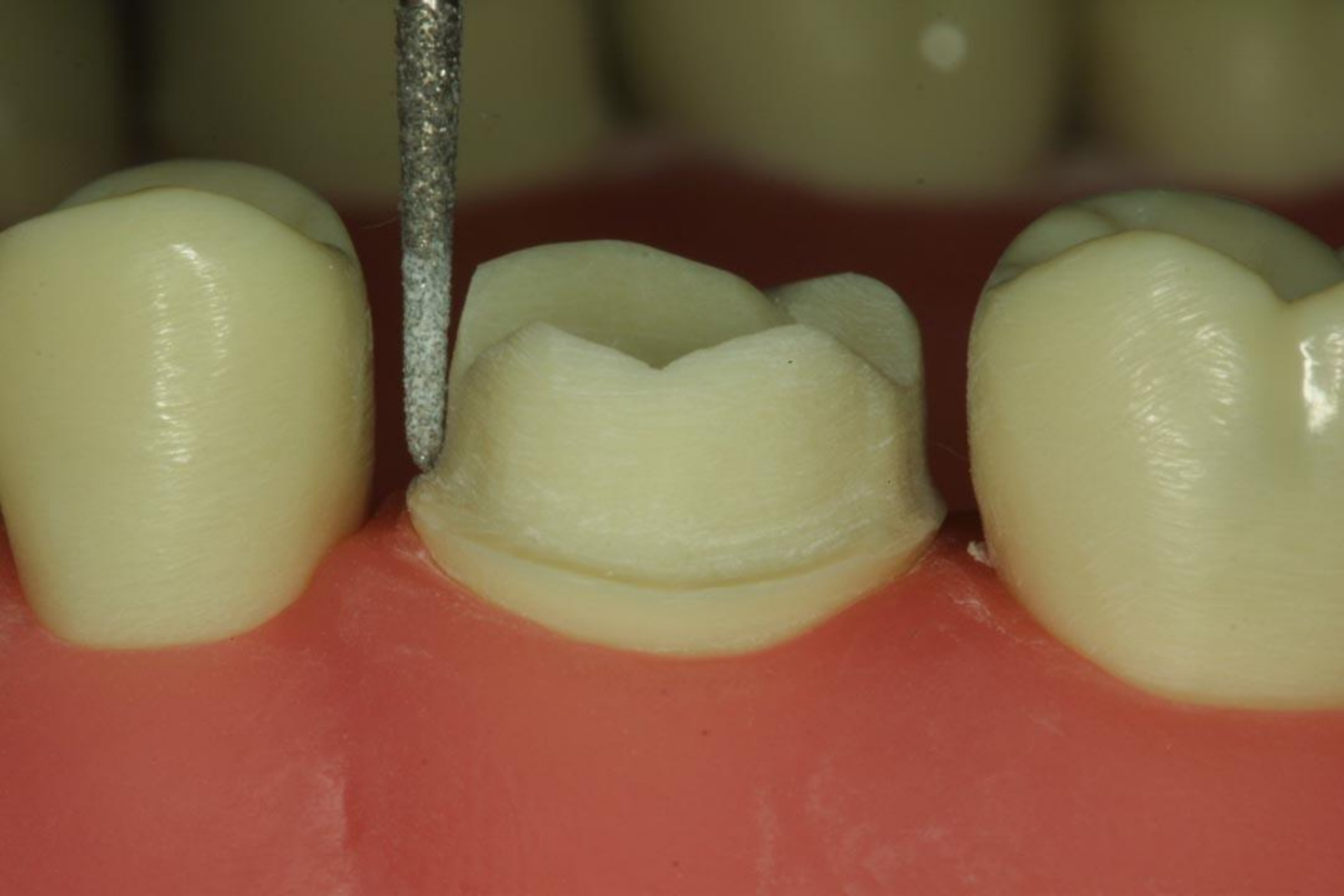


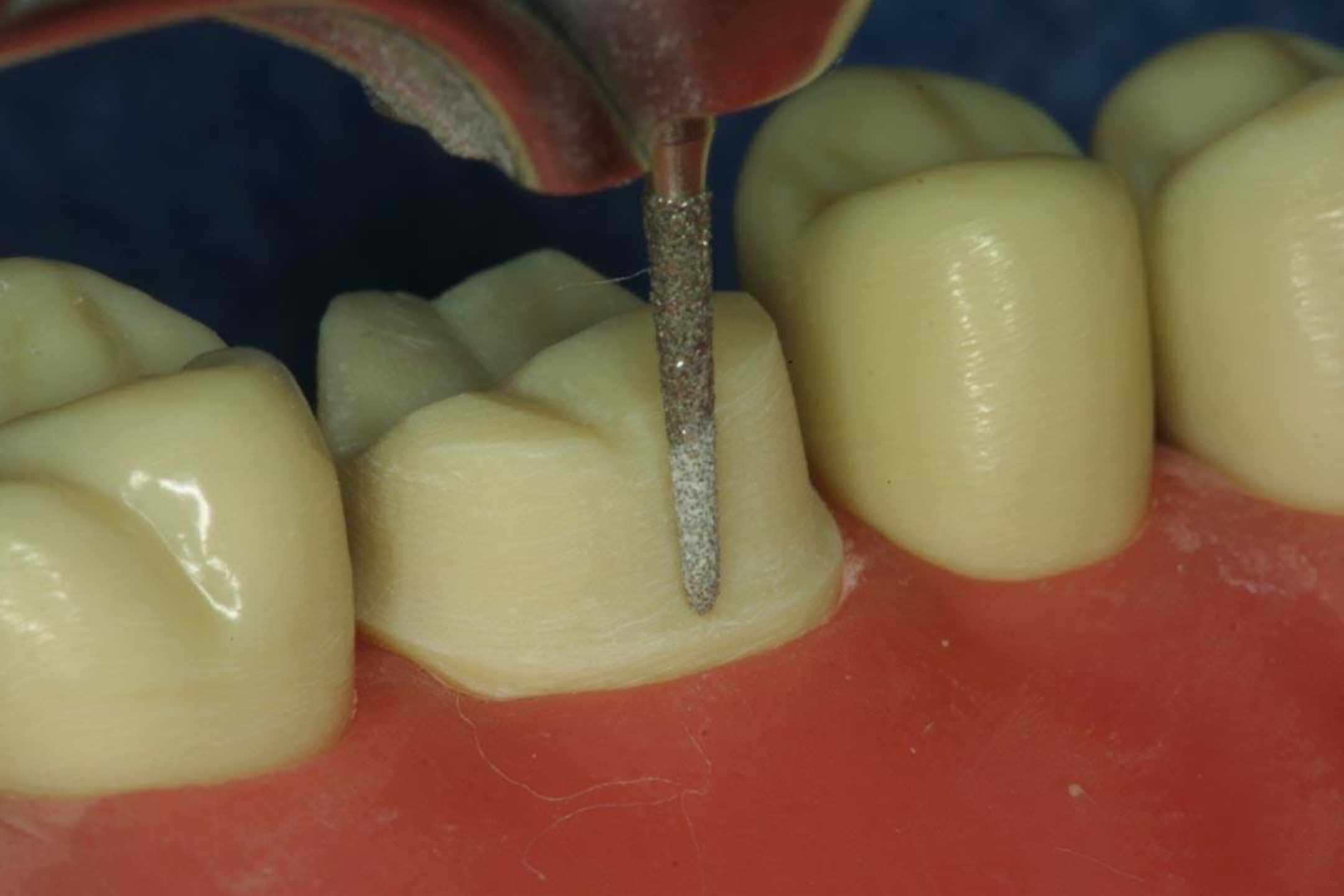






878K-012



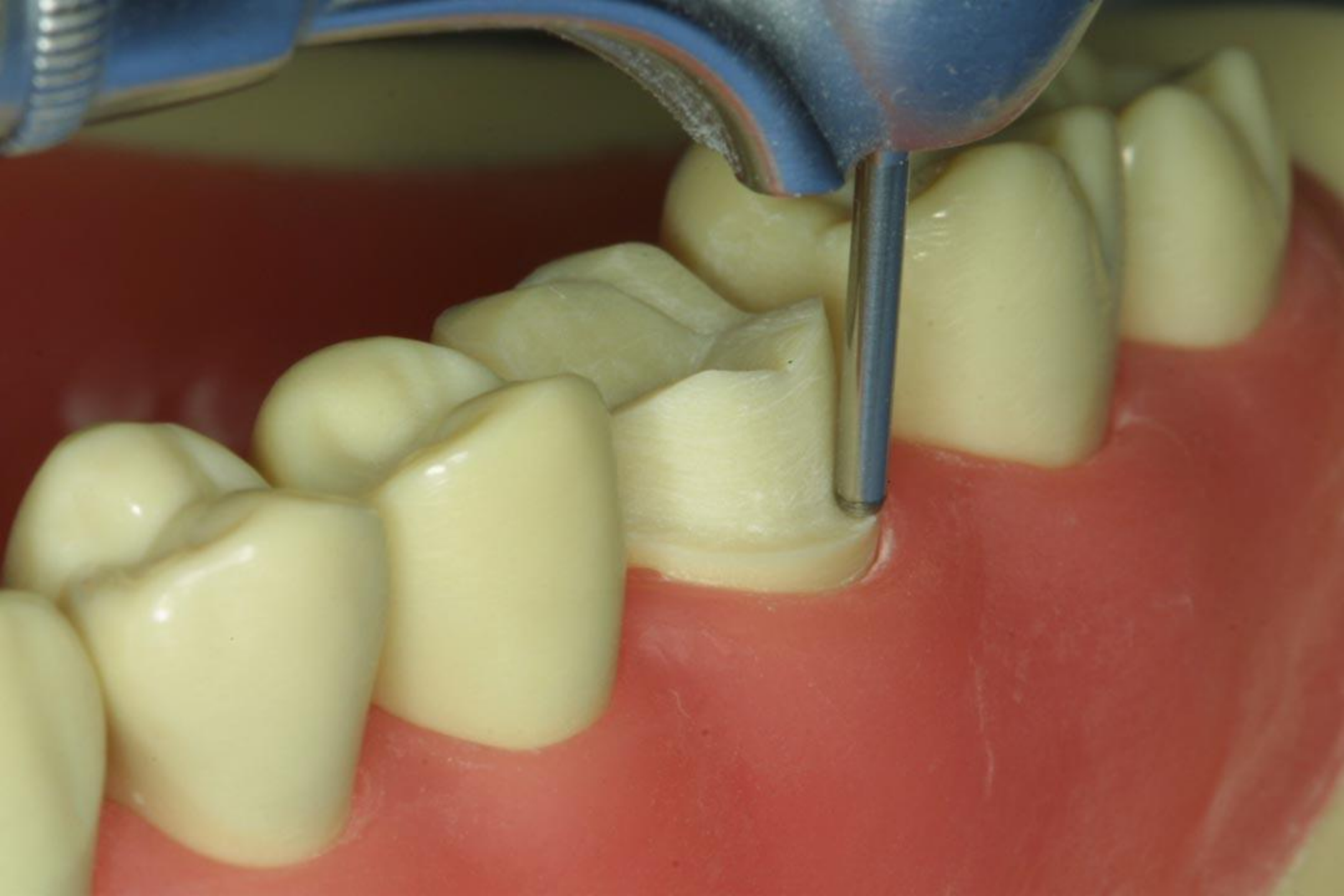


Finish Lines

- Facial-Shoulder (10839-012)
 - Remove “lip” at finish line
 - Porcelain butt joint
 - Internal rounded obtuse angle
 - Extend shoulder into interproximal
- Interproximal-Beveled Shoulder (878K-012)
 - Transition to lingual
- Lingual-Chamfer (878K-012)
- Optional-Facial Beveled Shoulder (Non-esthetic)

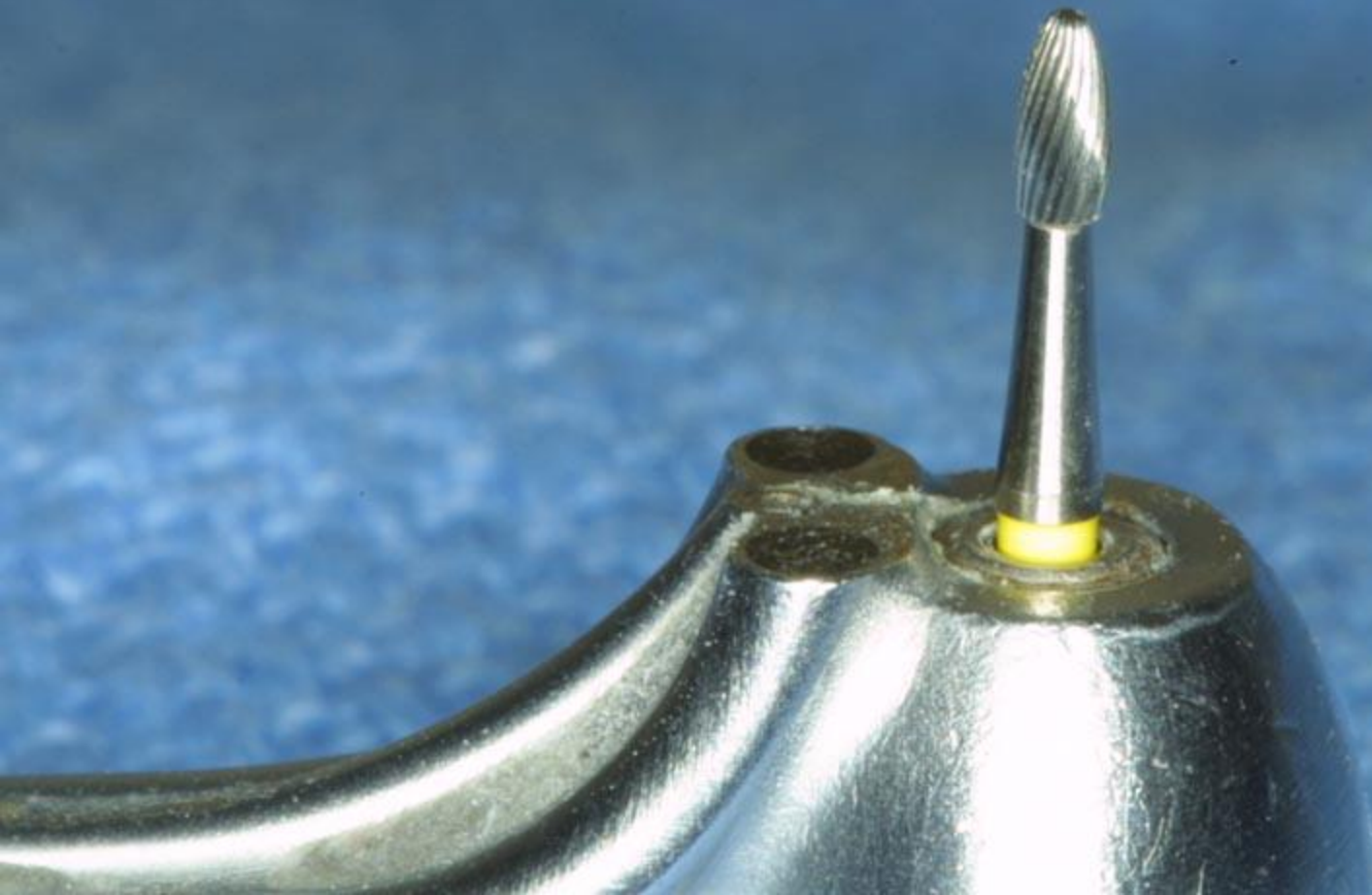


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Thank YOU

